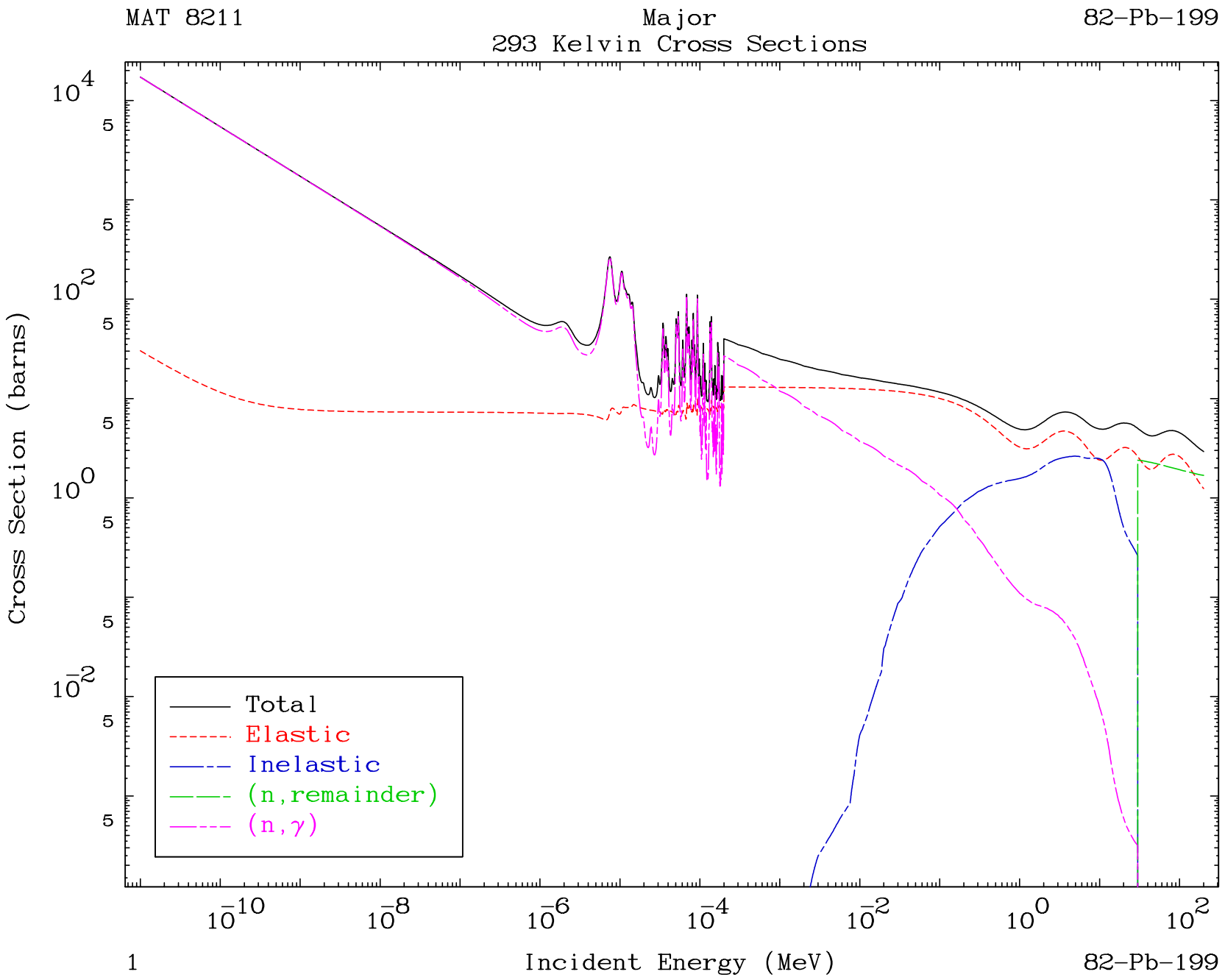
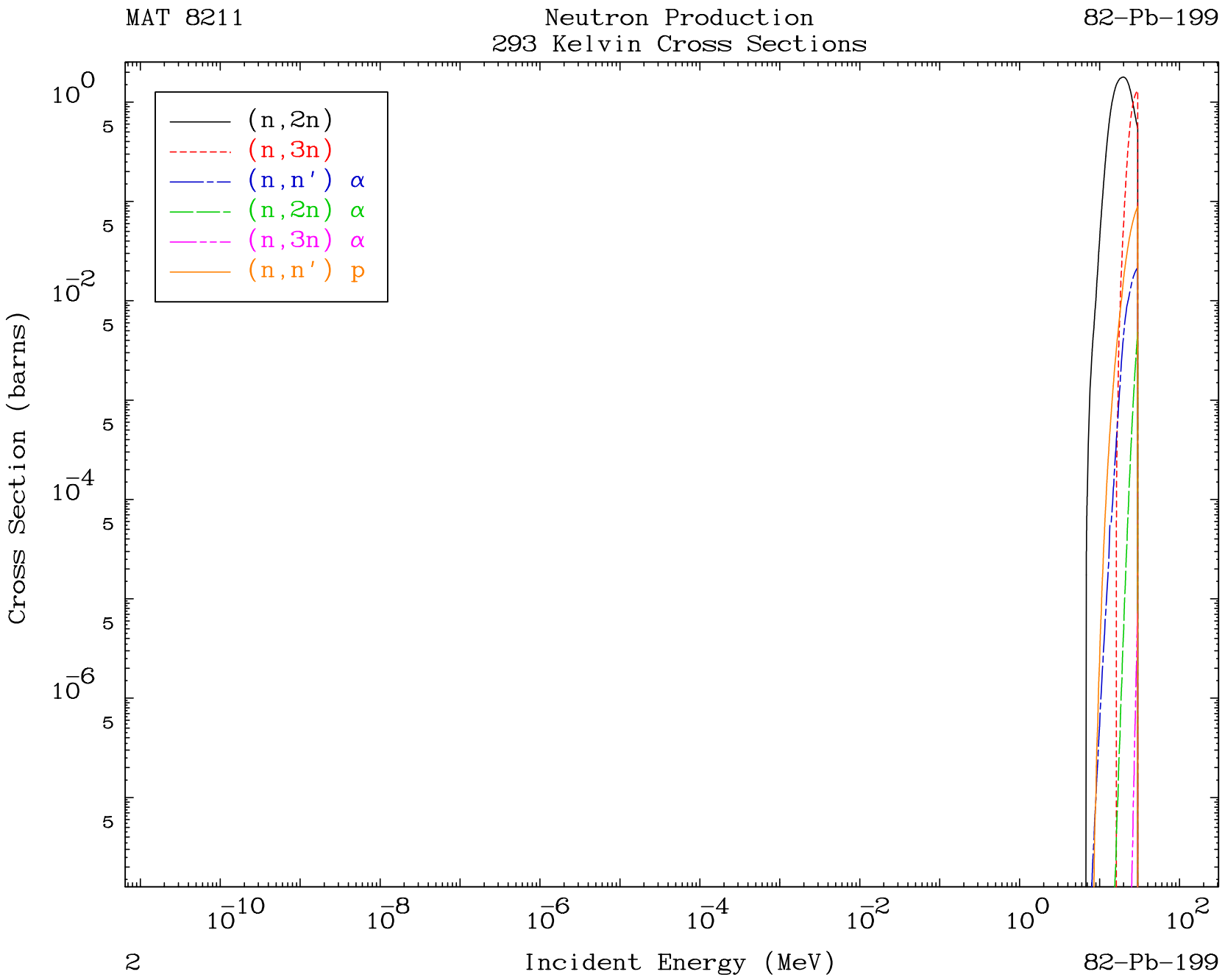
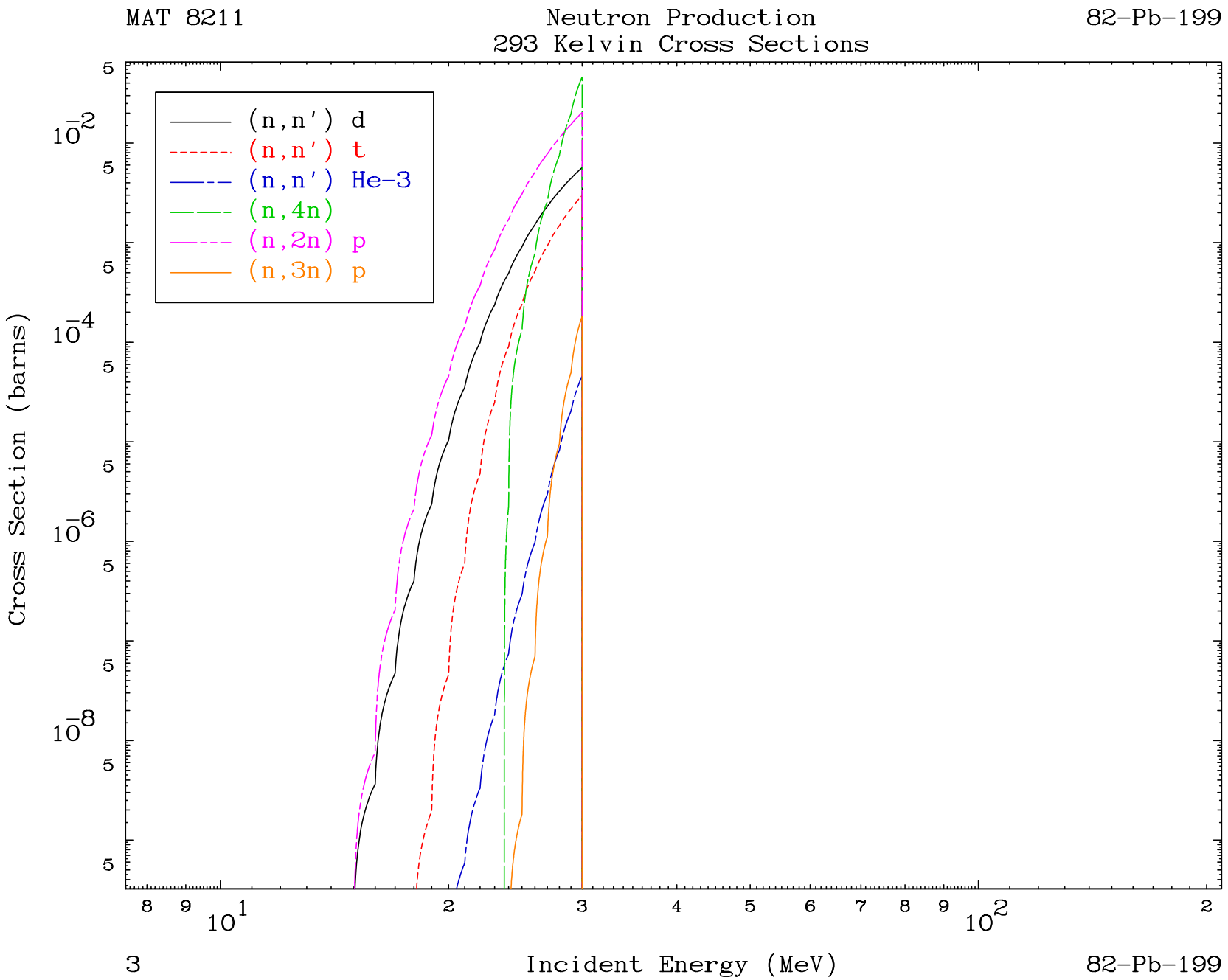
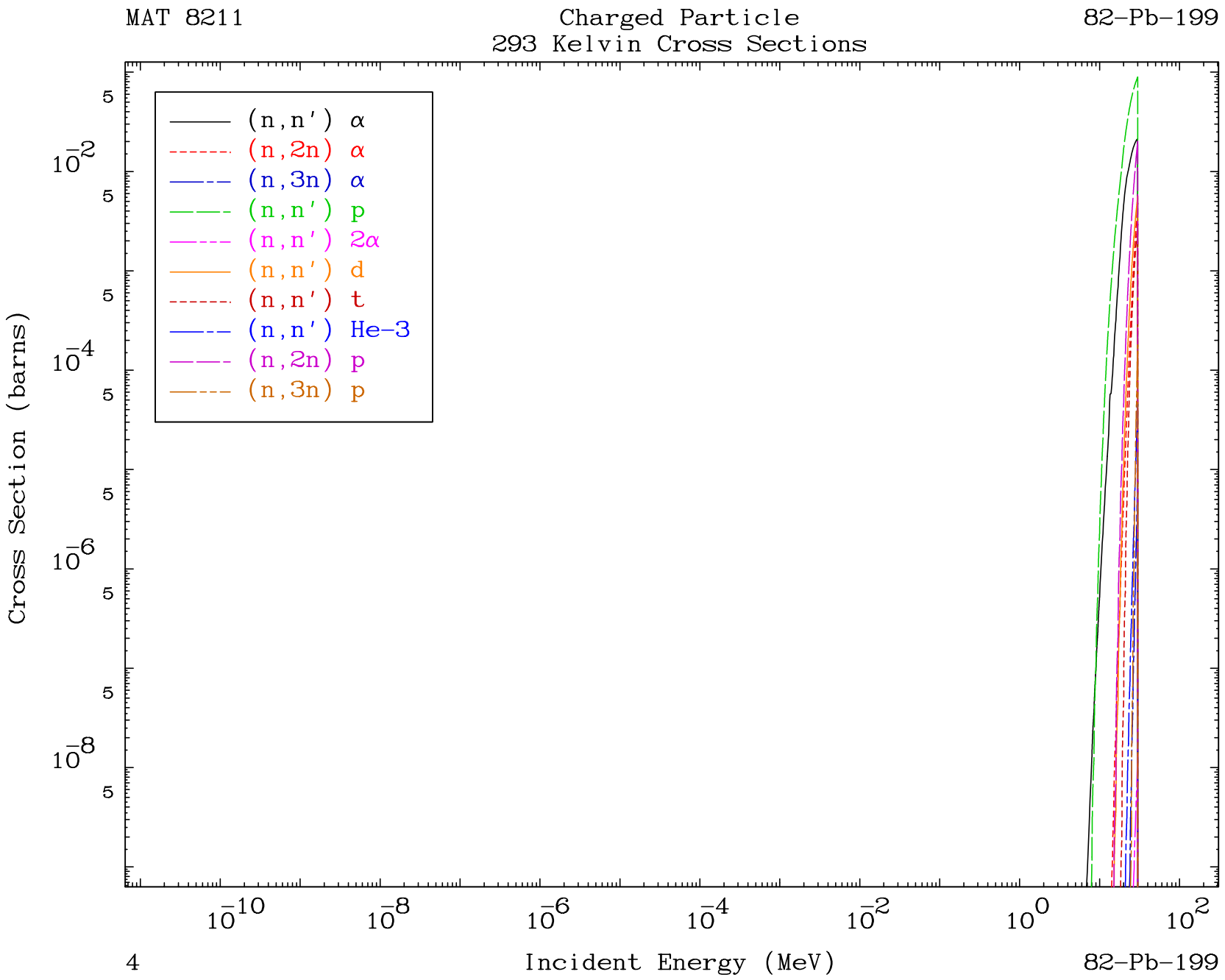
Program EVALPLOT
(Version 2017-1)
by
Dermott E. Cullen
(Present Contact Information)
Dermott E. Cullen
1466 Hudson Way
Livermore, CA 94550
U.S.A.
Tele: 925-443-1911
E.Mail:redcullen1@comcast.net
Web:redcullen1.net/HOMEPAGE.NEW

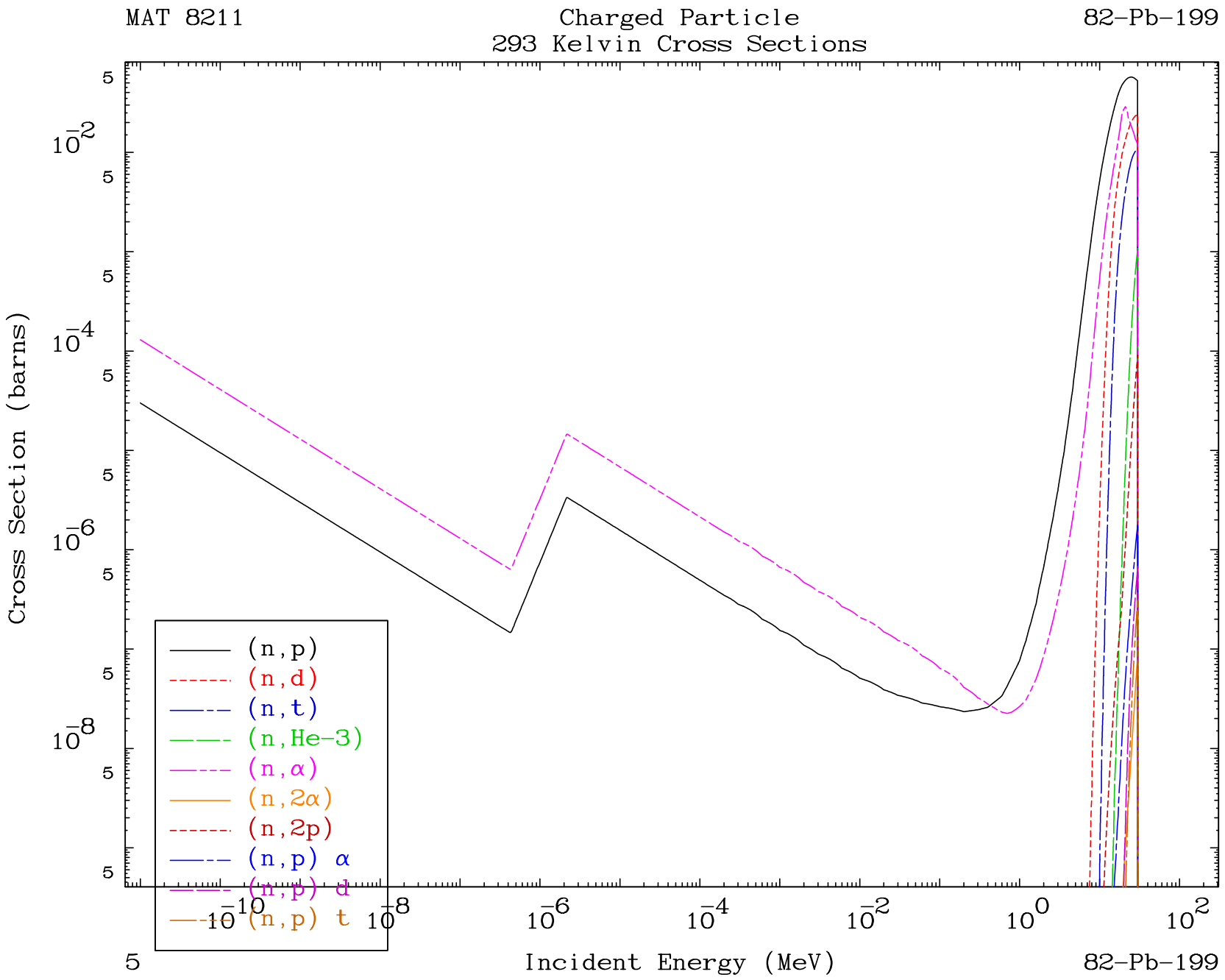
Press Mouse Button to Start

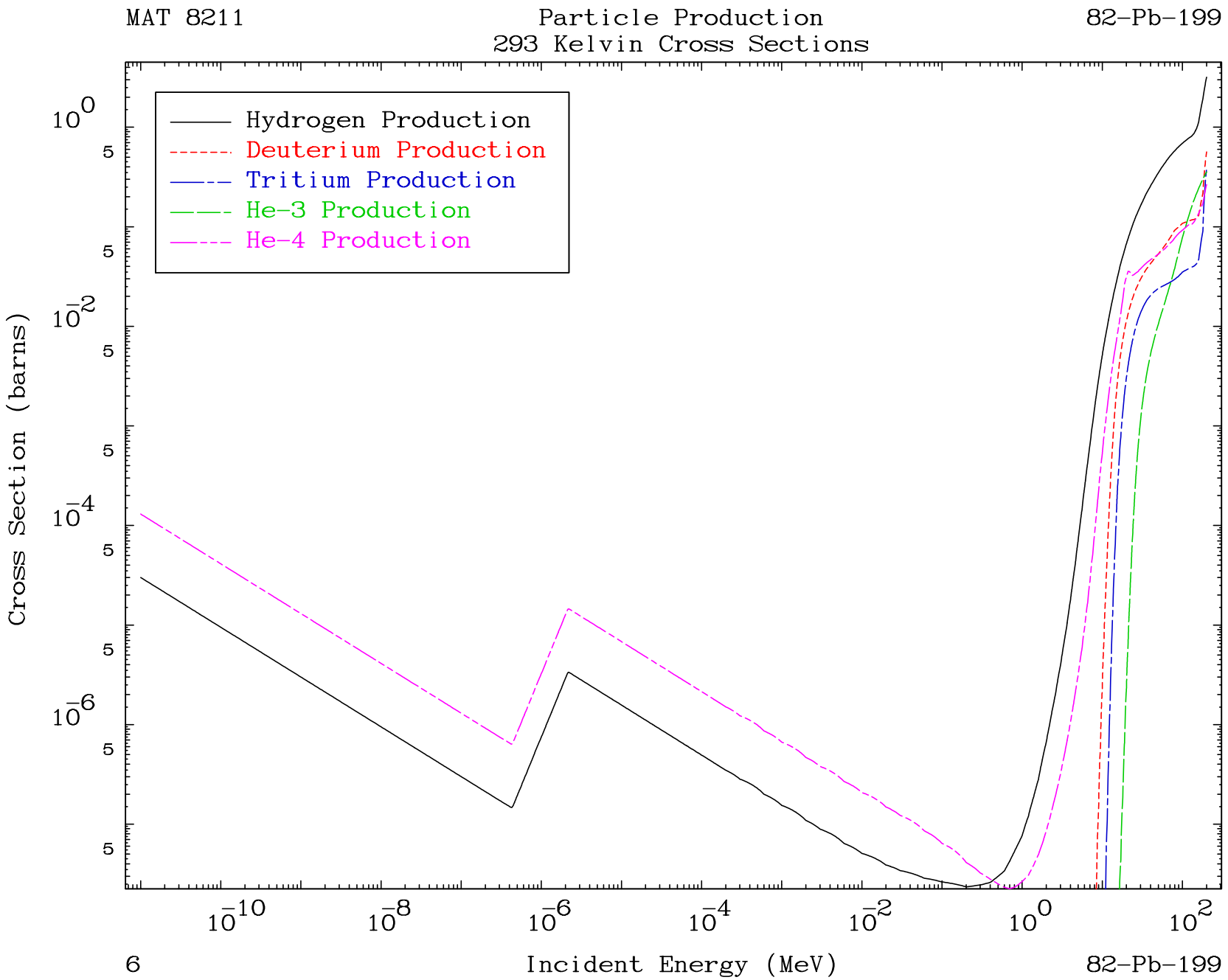

MAT 8211
Major
82-Pb-199
293 Kelvin Cross Sections
Cross Section (barns)
Incident Energy (MeV)
82-Pb-199
1
Total
Elastic
Inelastic
(n,remainder)
(n,γ)

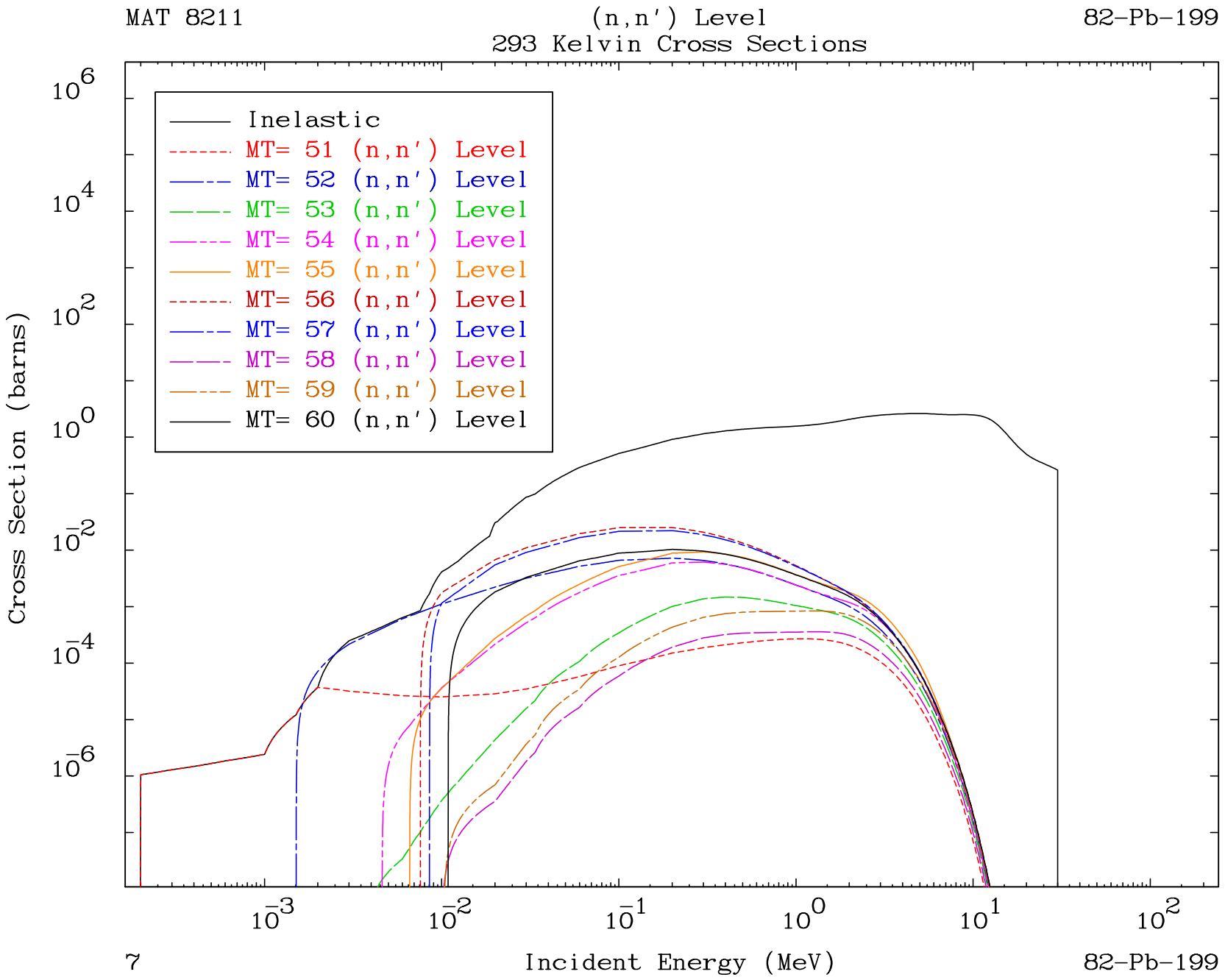

MAT 8211
Neutron Production
293 Kelvin Cross Sections
82-Pb-199
(n,2n)
(n,3n)
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
Cross Section (barns)
Incident Energy (MeV)
2
82-Pb-199

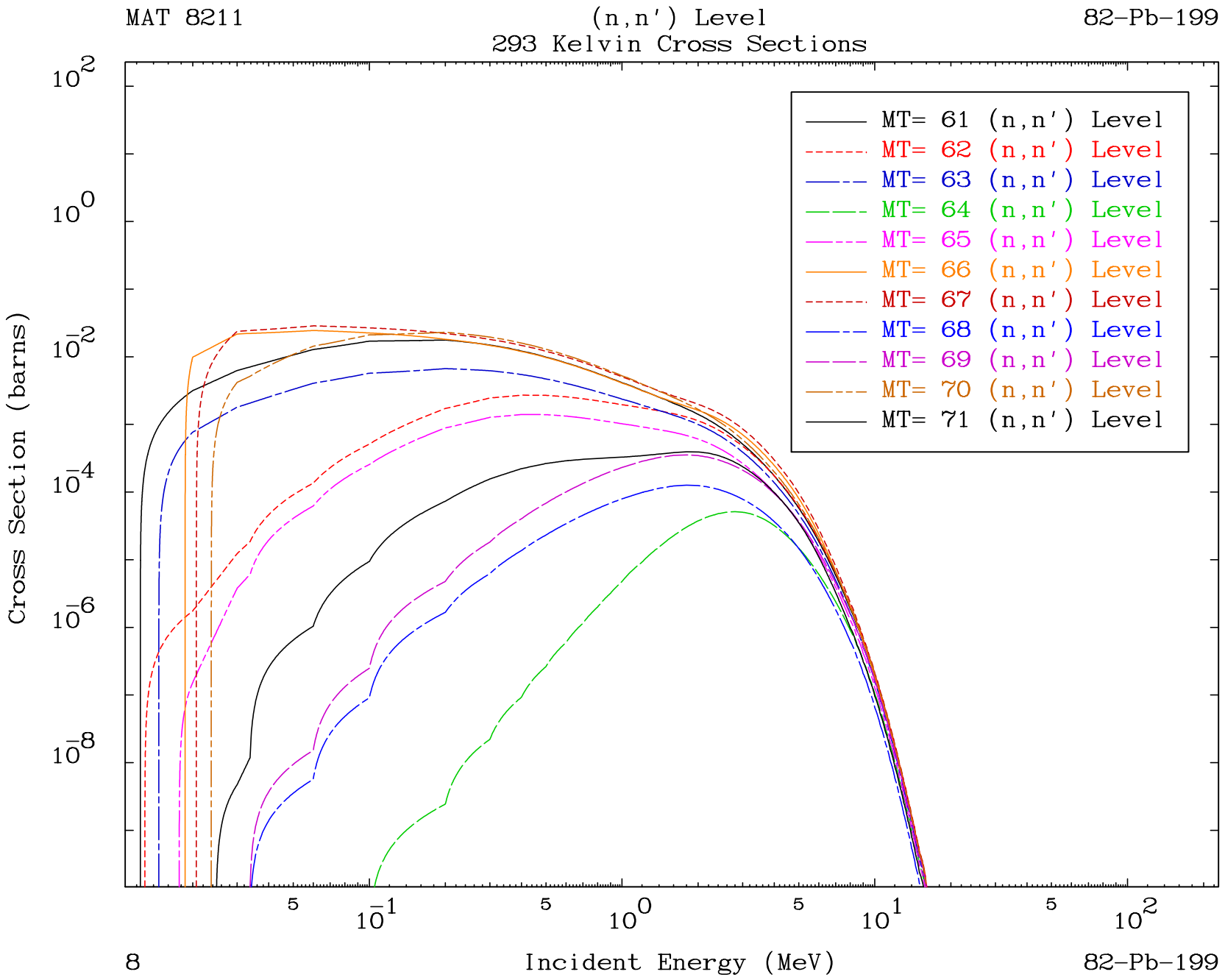

MAT 8211
Neutron Production
293 Kelvin Cross Sections
82-Pb-199
(n,n') d
(n,n') t
(n,n') He-3
(n,4n)
(n,2n) p
(n,3n) p
Cross Section (barns)
Incident Energy (MeV)
3
82-Pb-199

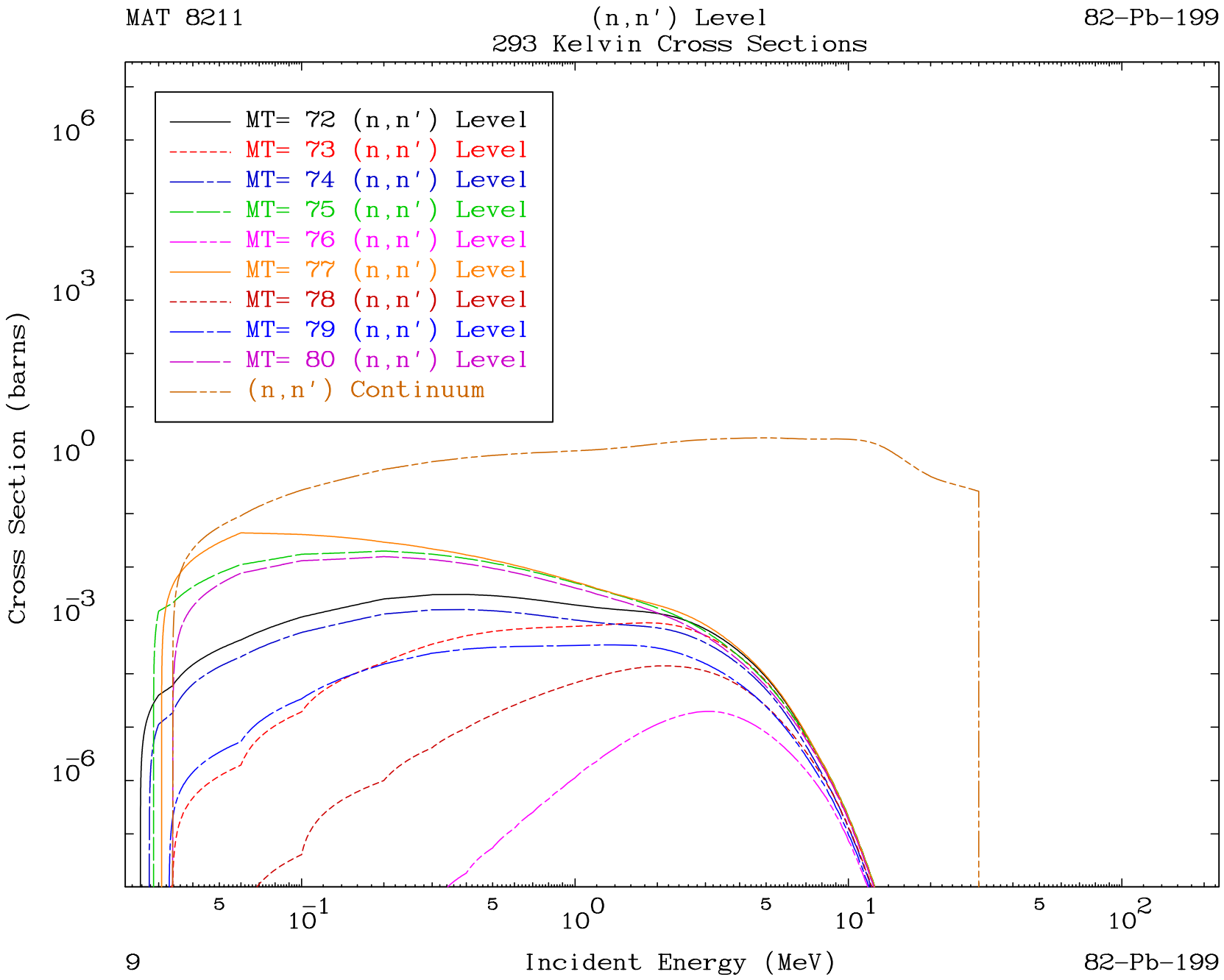

MAT 8211
Charged Particle
293 Kelvin Cross Sections
82-Pb-199
(n,n') α
(n,2n) α
(n,3n) α
(n,n') p
(n,n') 2α
(n,n') d
(n,n') t
(n,n') He-3
(n,2n) p
(n,3n) p
Cross Section (barns)
Incident Energy (MeV)
4
82-Pb-199

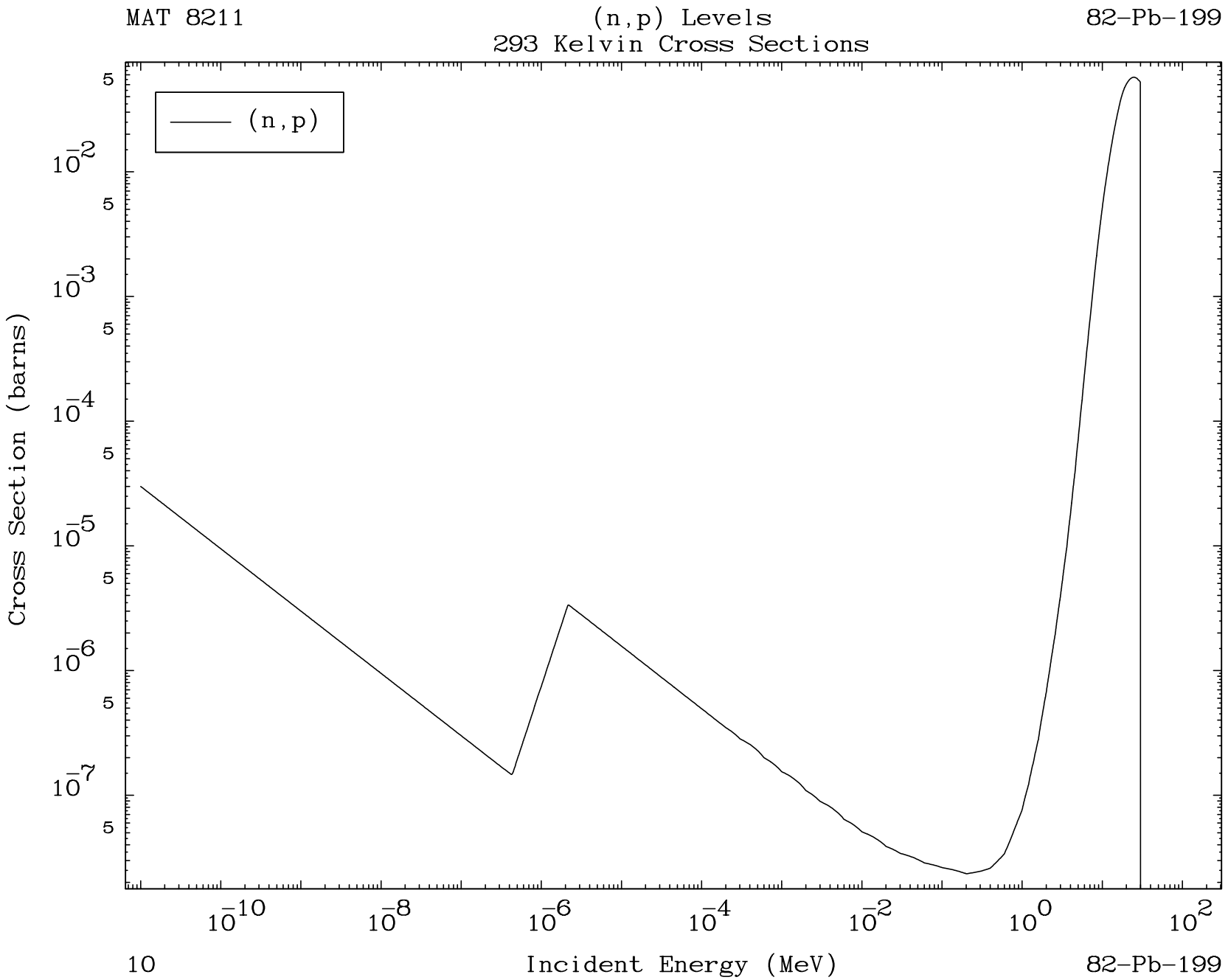

MAT 8211
Charged Particle
293 Kelvin Cross Sections
82-Pb-199
Cross Section (barns)
Incident Energy (MeV)
82-Pb-199
(n,p)
(n,d)
(n,t)
(n,He-3)
(n,α)
(n,2α)
(n,2p)
(n,p) α
(n,p) d
(n,p) t

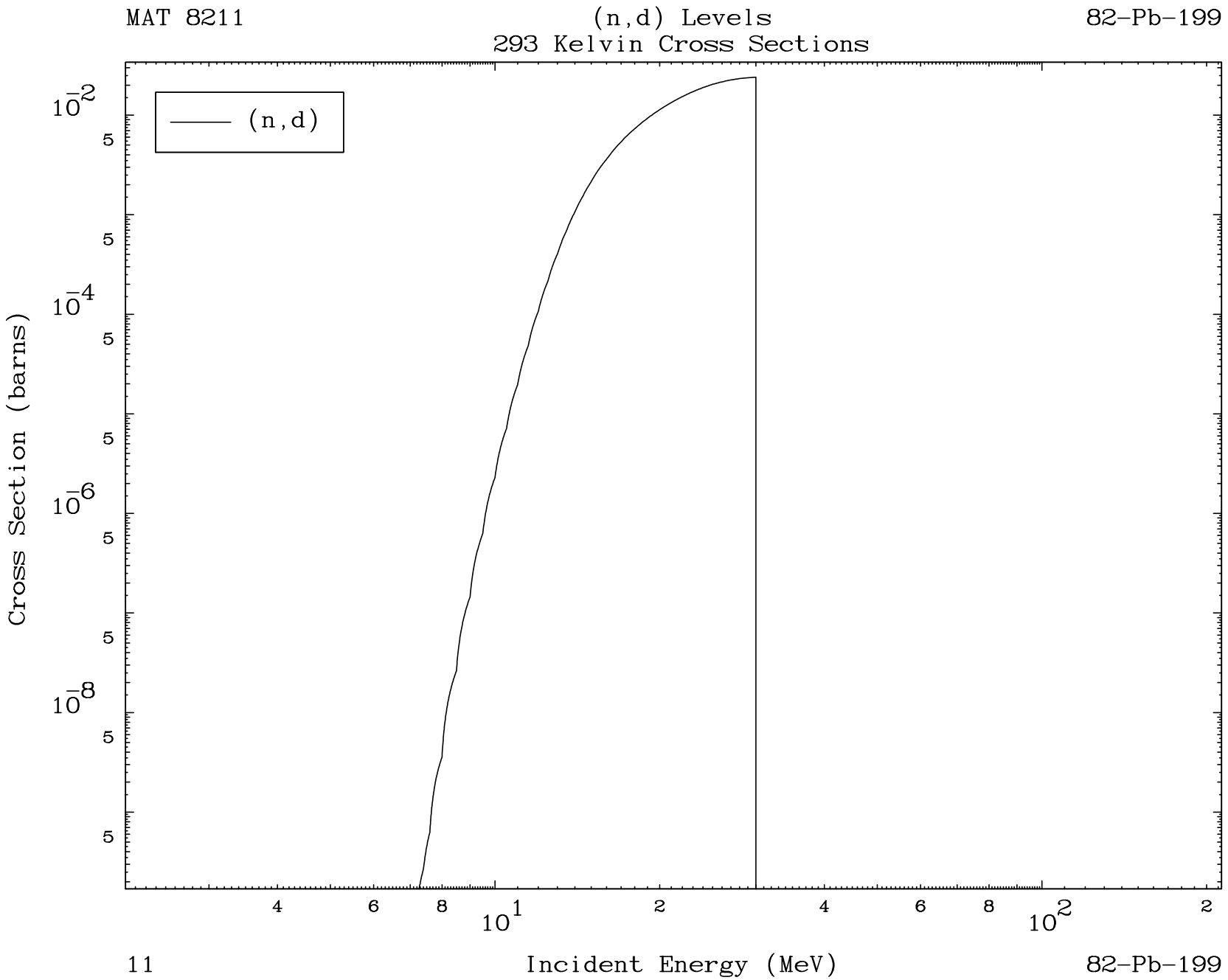

MAT 8211
Particle Production
293 Kelvin Cross Sections
82-Pb-199
Hydrogen Production
Deuterium Production
Tritium Production
He-3 Production
He-4 Production
Cross Section (barns)
Incident Energy (MeV)
82-Pb-199
6

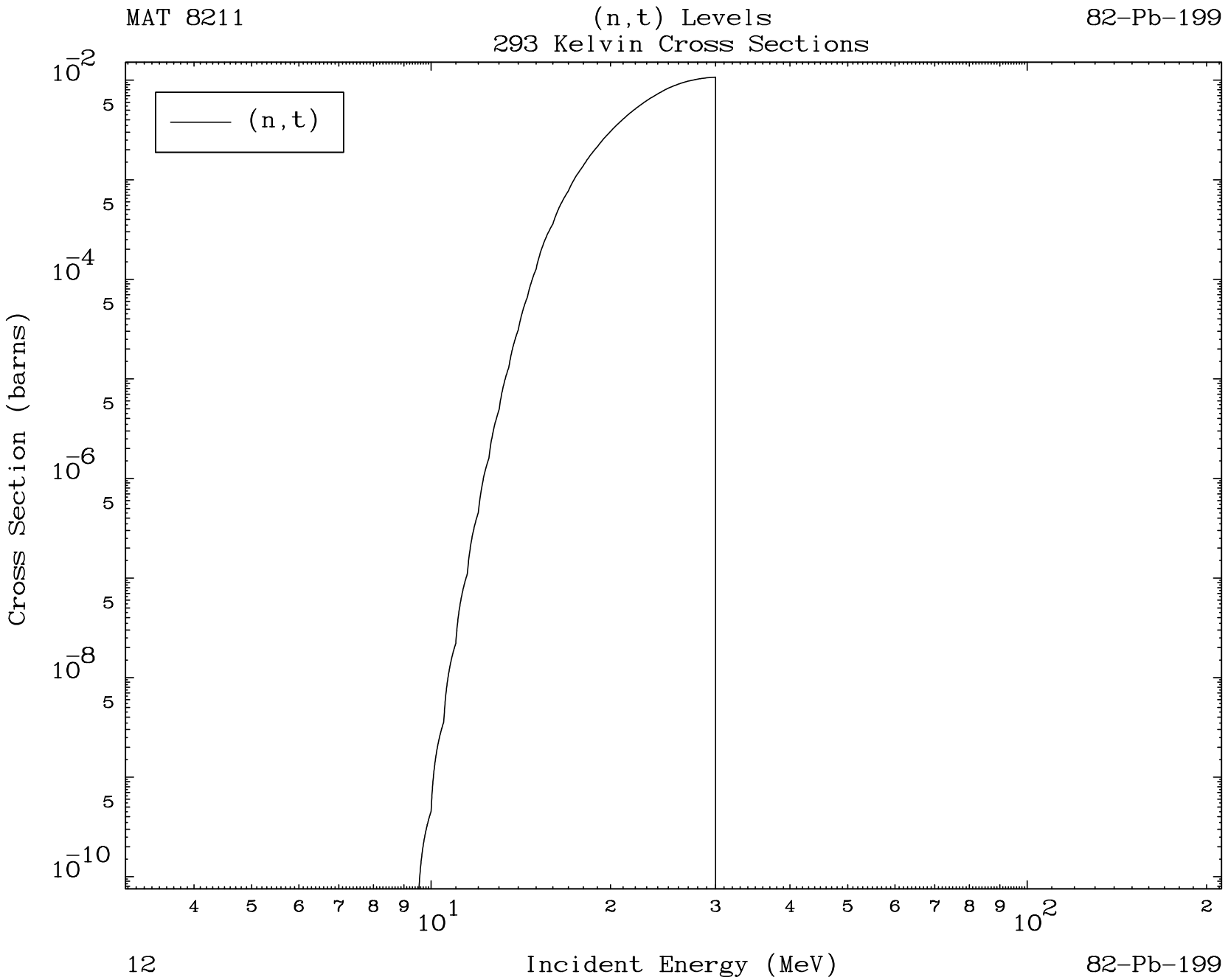

MAT 8211
(n,n') Level
82-Pb-199
293 Kelvin Cross Sections
Inelastic
MT= 51 (n,n') Level
MT= 52 (n,n') Level
MT= 53 (n,n') Level
MT= 54 (n,n') Level
MT= 55 (n,n') Level
MT= 56 (n,n') Level
MT= 57 (n,n') Level
MT= 58 (n,n') Level
MT= 59 (n,n') Level
MT= 60 (n,n') Level
Cross Section (barns)
Incident Energy (MeV)
7
82-Pb-199

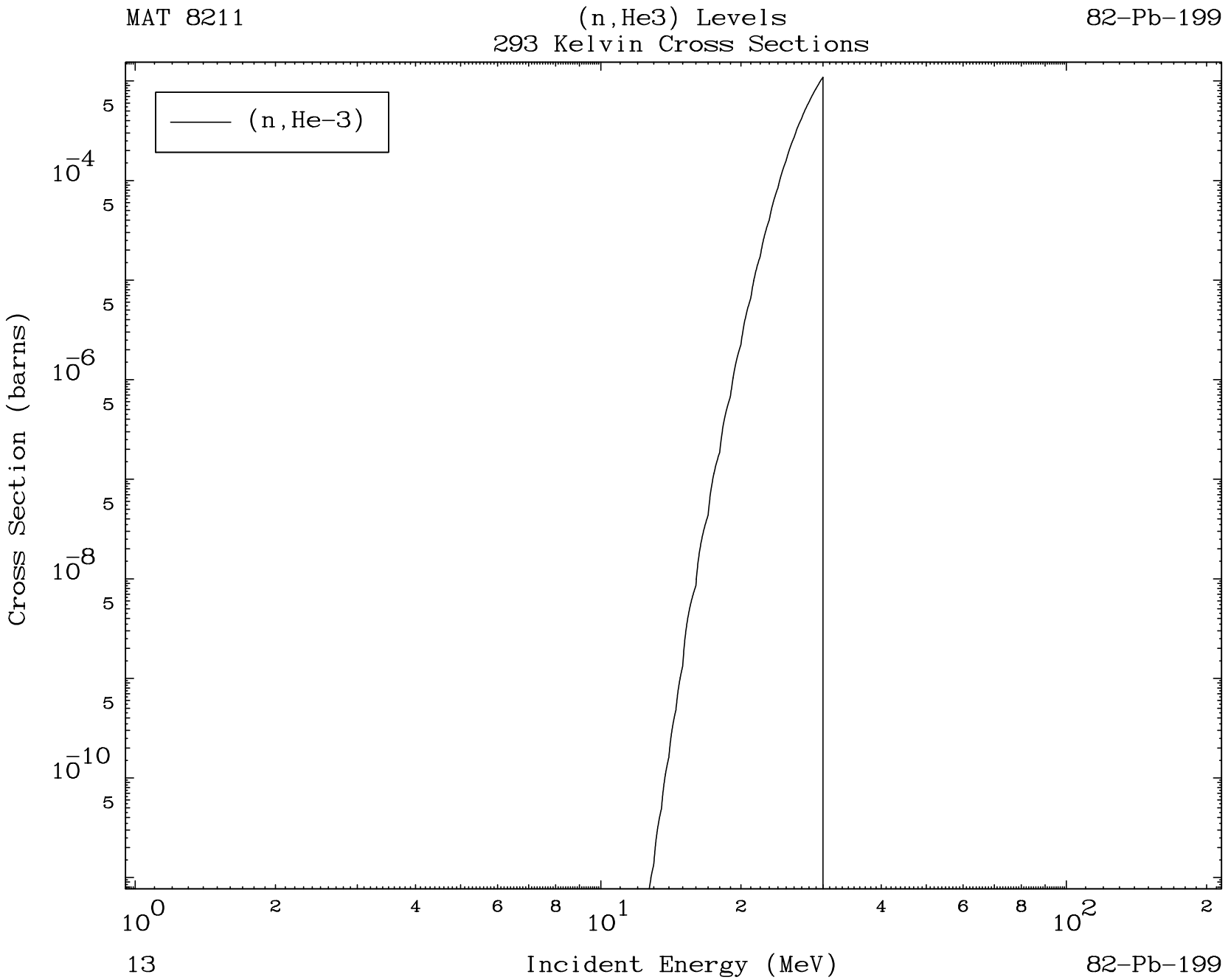

MAT 8211
(n,n') Level
293 Kelvin Cross Sections
82-Pb-199
Cross Section (barns)
Incident Energy (MeV)
MT= 61 (n,n') Level
MT= 62 (n,n') Level
MT= 63 (n,n') Level
MT= 64 (n,n') Level
MT= 65 (n,n') Level
MT= 66 (n,n') Level
MT= 67 (n,n') Level
MT= 68 (n,n') Level
MT= 69 (n,n') Level
MT= 70 (n,n') Level
MT= 71 (n,n') Level
8
82-Pb-199

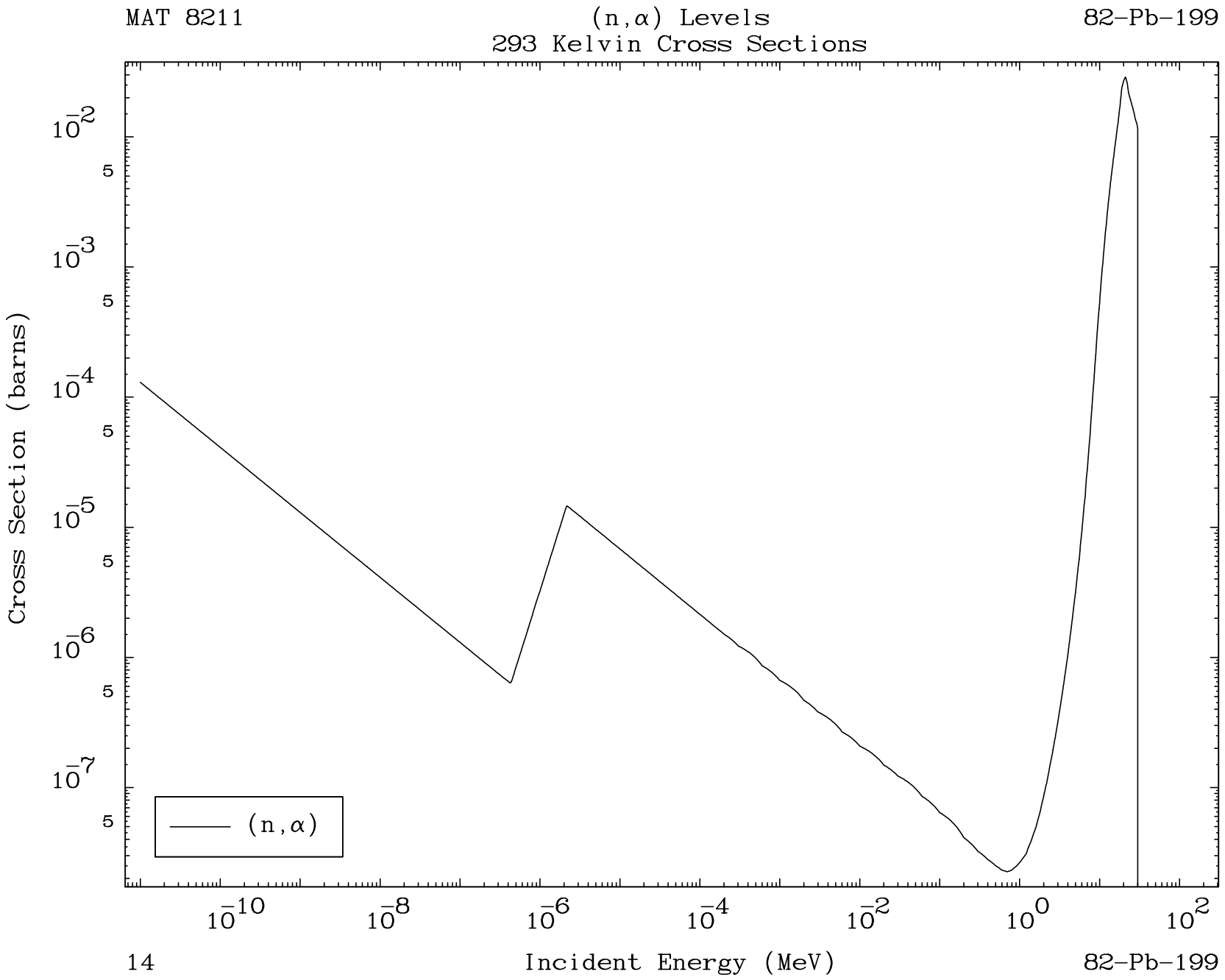

MAT 8211
(n,n') Level
82-Pb-199
293 Kelvin Cross Sections
MT= 72 (n,n') Level
MT= 73 (n,n') Level
MT= 74 (n,n') Level
MT= 75 (n,n') Level
MT= 76 (n,n') Level
MT= 77 (n,n') Level
MT= 78 (n,n') Level
MT= 79 (n,n') Level
MT= 80 (n,n') Level
(n,n') Continuum
Cross Section (barns)
10^6
10^3
10^0
10^-3
10^-6
5
10^-1
5
10^0
5
10^1
5
10^2
9
Incident Energy (MeV)
82-Pb-199

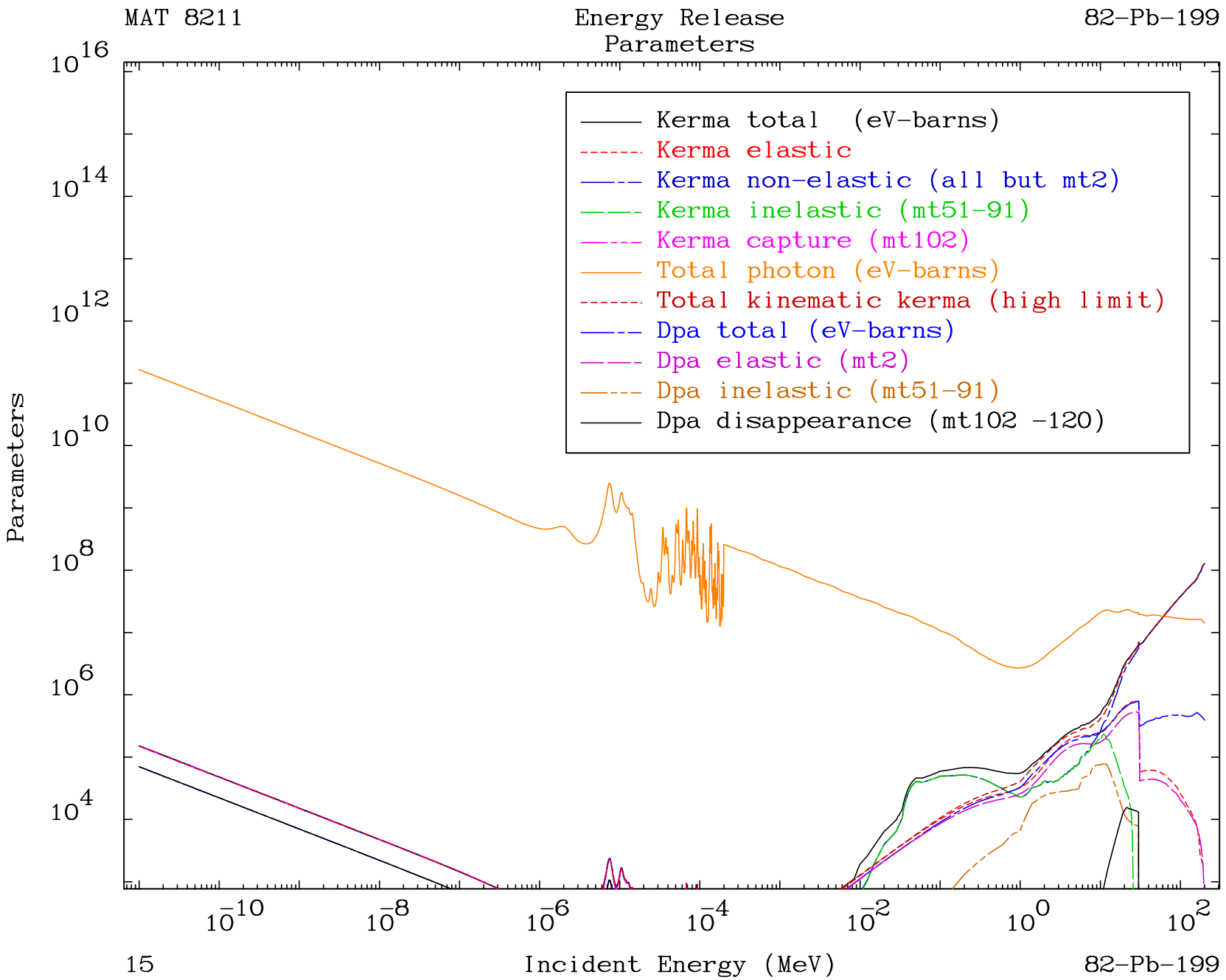

MAT 8211
(n,p) Levels
82-Pb-199
293 Kelvin Cross Sections
(n,p)
Cross Section (barns)
Incident Energy (MeV)
10
82-Pb-199

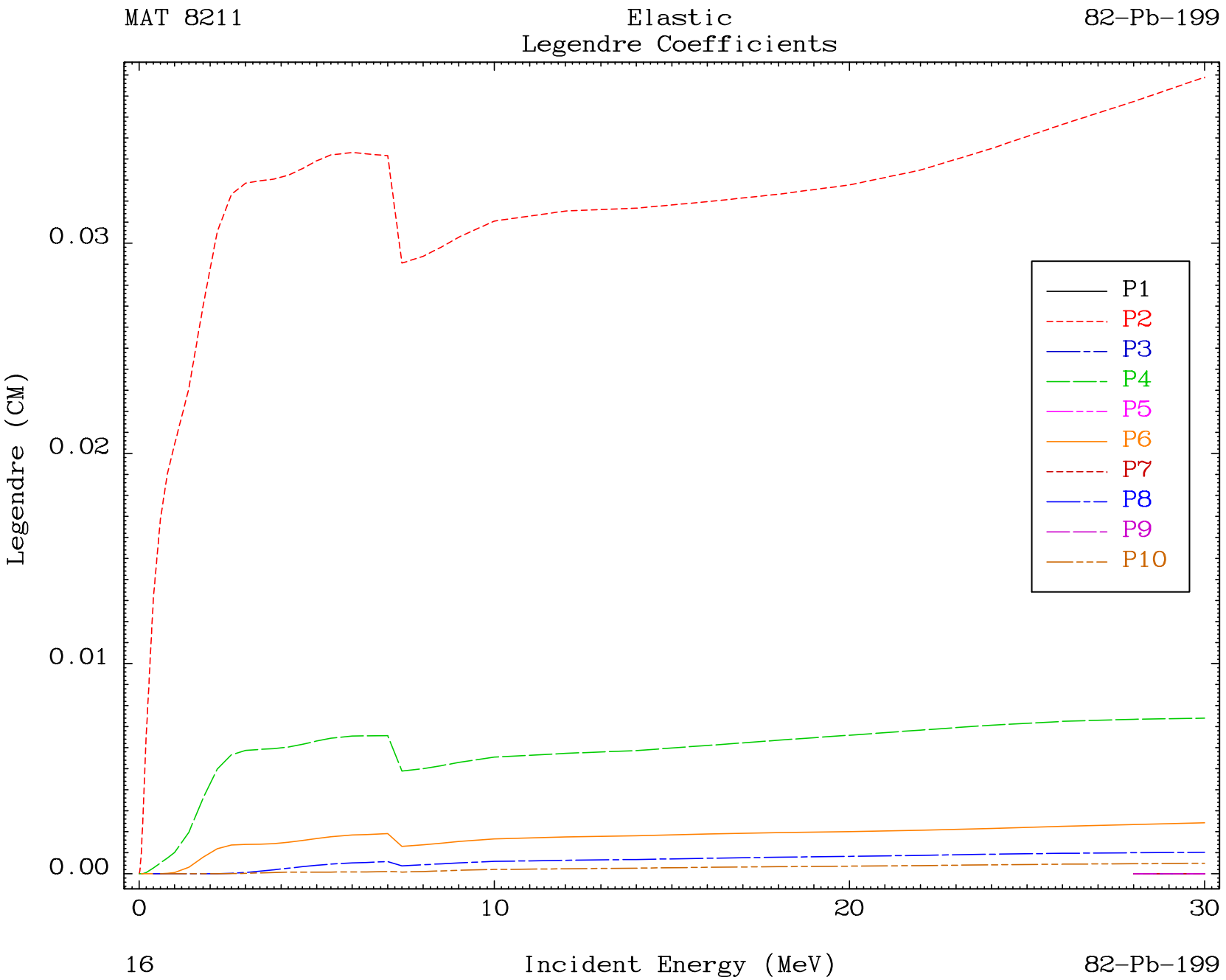

MAT 8211
(n,d) Levels
82-Pb-199
293 Kelvin Cross Sections
(n,d)
Cross Section (barns)
10^-2
10^-4
10^-6
10^-8
5
4
6
8
10^1
2
10^2
11
Incident Energy (MeV)
82-Pb-199

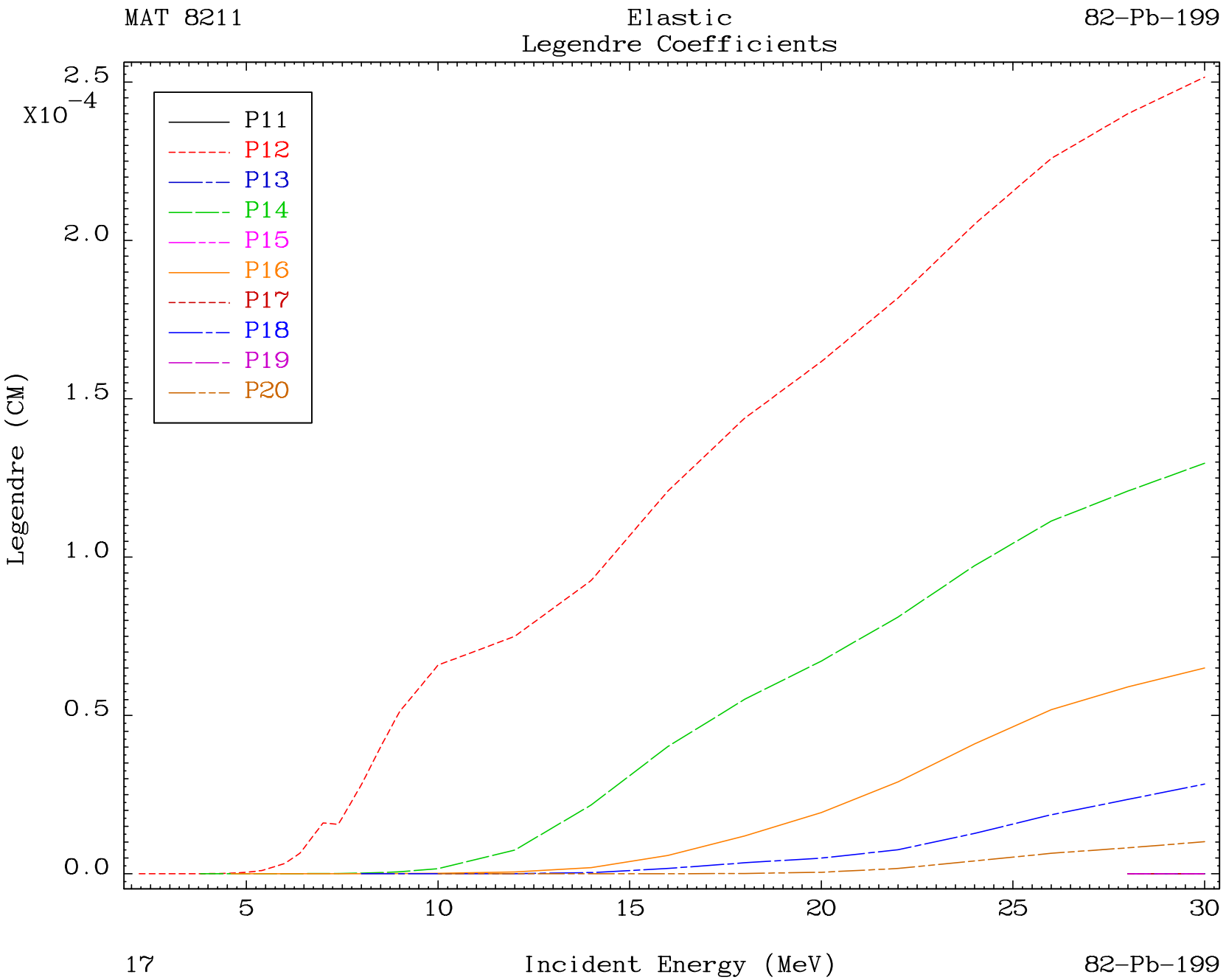

MAT 8211
(n,t) Levels
82-Pb-199
293 Kelvin Cross Sections
(n,t)
Cross Section (barns)
Incident Energy (MeV)
12
82-Pb-199

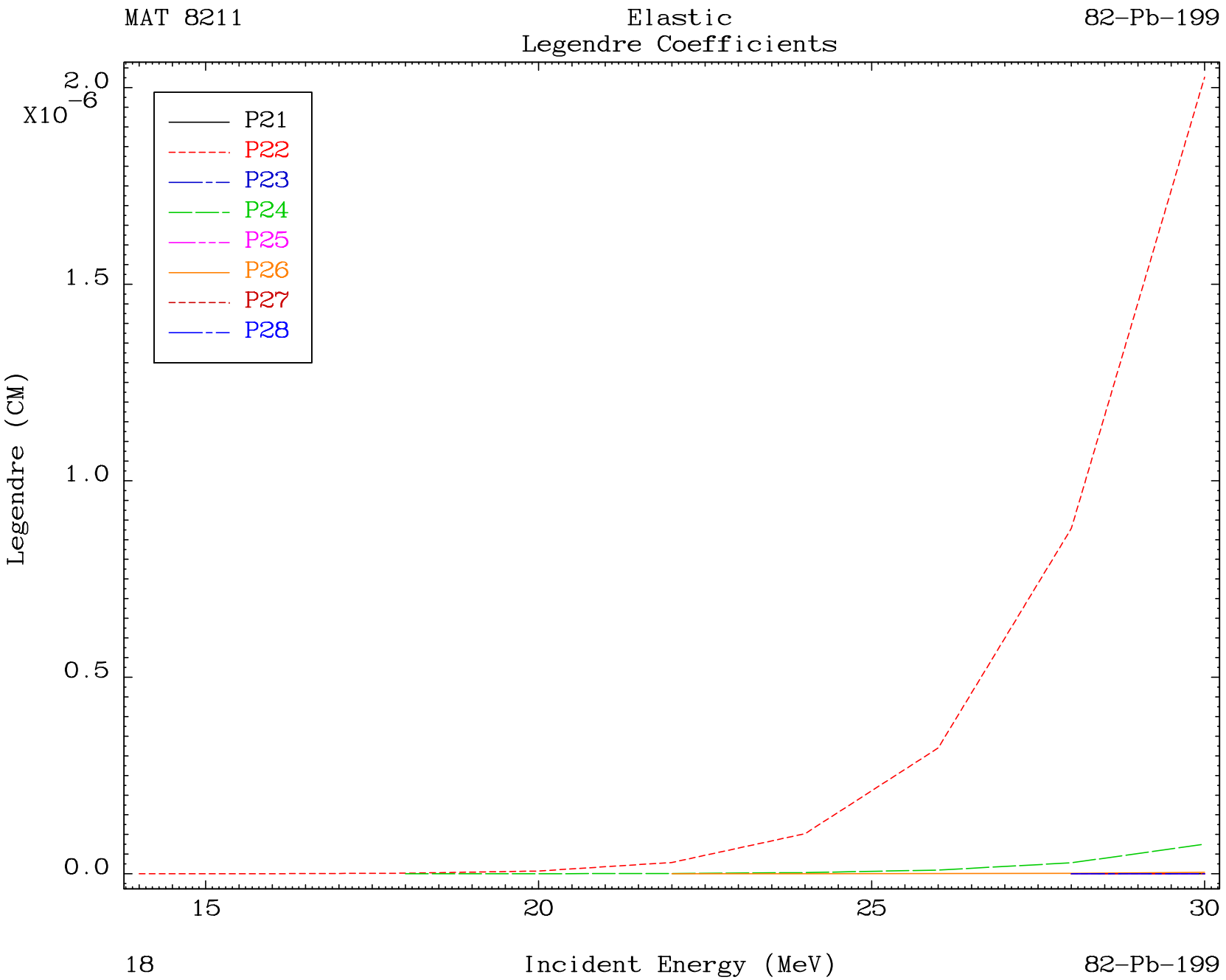

MAT 8211
(n,He3) Levels
82-Pb-199
293 Kelvin Cross Sections
(n,He-3)
Cross Section (barns)
10-4
10-6
10-8
10-10
100
101
102
Incident Energy (MeV)
13
82-Pb-199

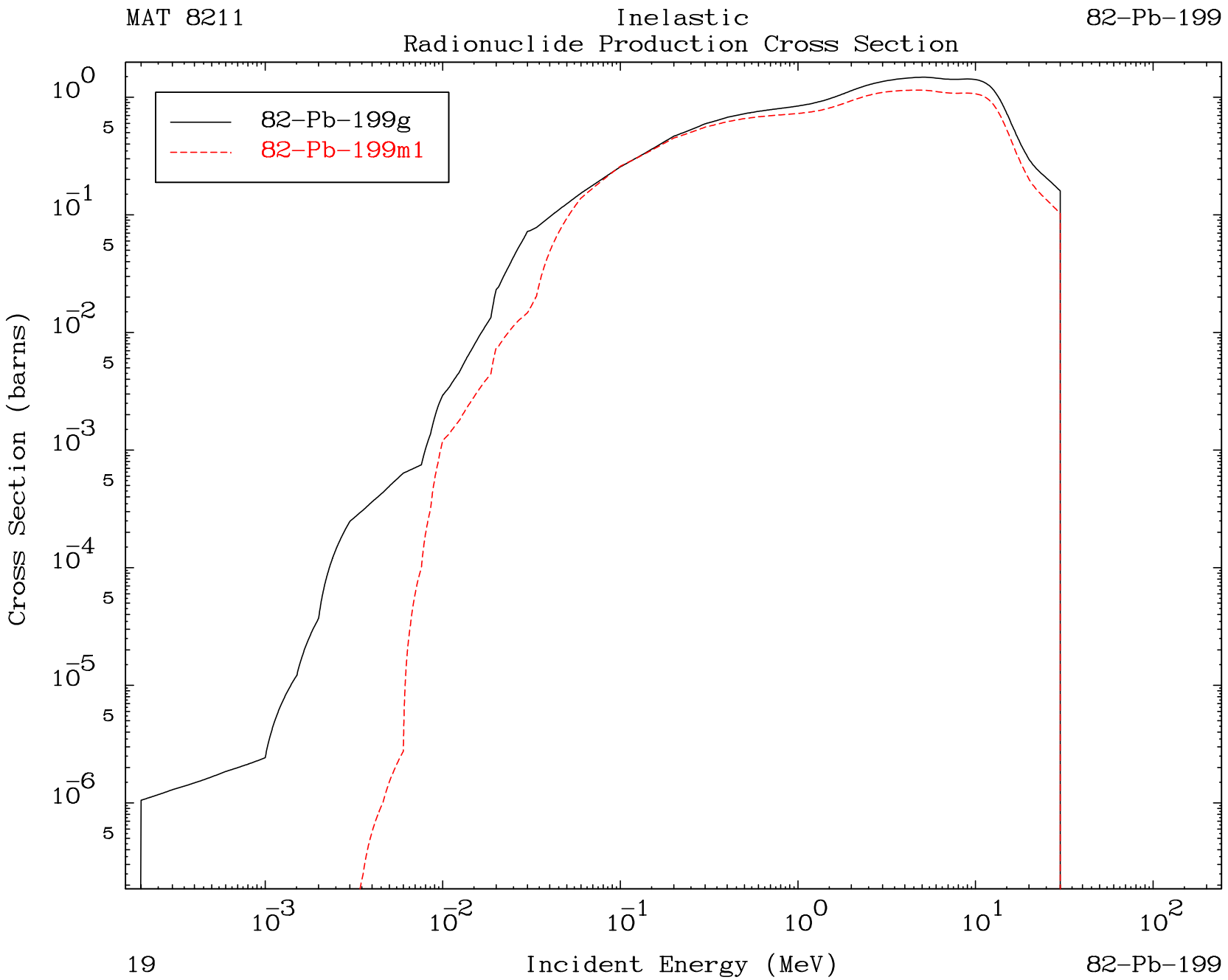

MAT 8211
(n,α) Levels
82-Pb-199
293 Kelvin Cross Sections
Cross Section (barns)
10-2
5
10-3
5
10-4
5
10-5
5
10-6
5
10-7
5
(n,α)
10-10
10-8
10-6
10-4
10-2
100
102
14
Incident Energy (MeV)
82-Pb-199

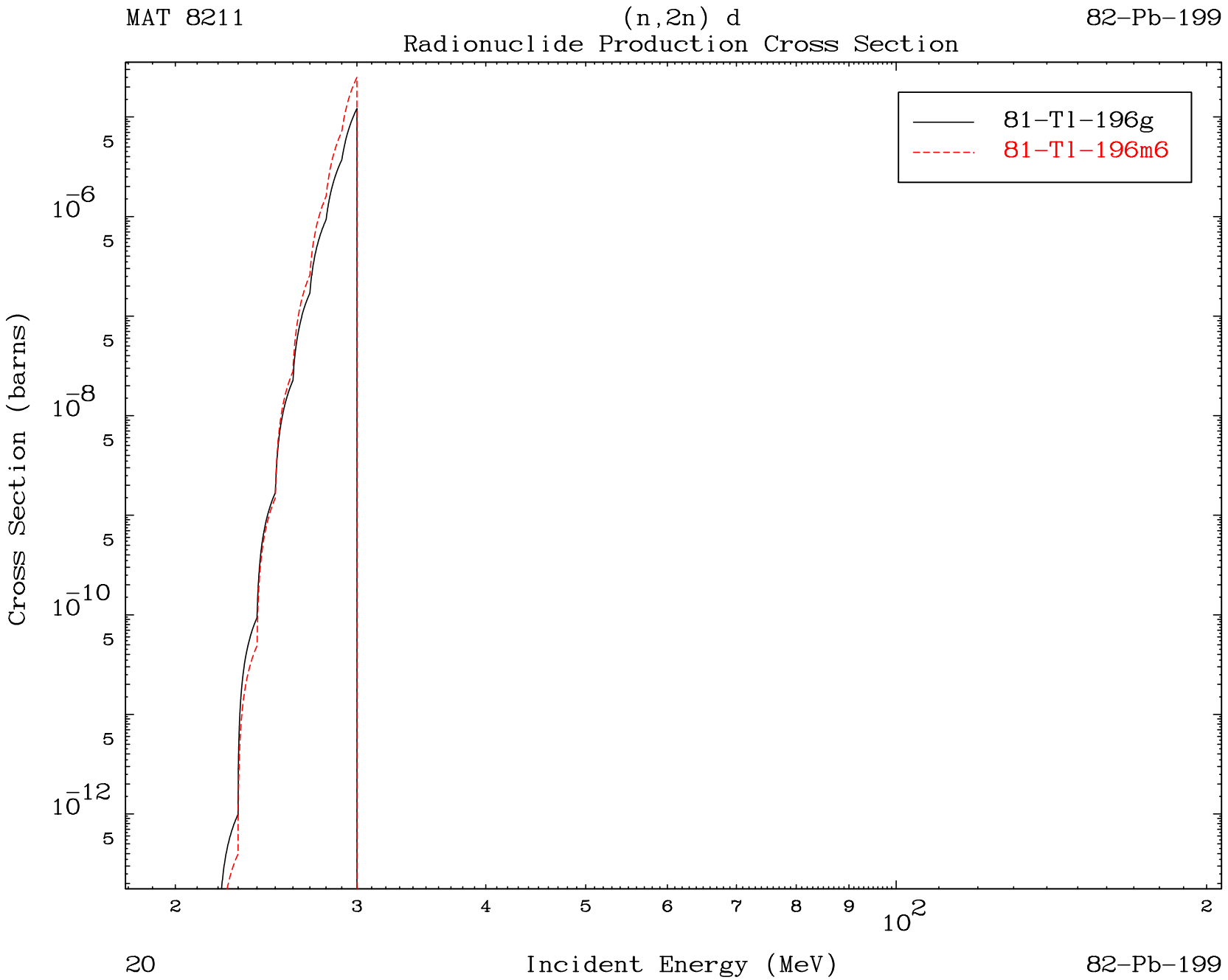

MAT 8211
Energy Release
Parameters
82-Pb-199
Kerma total (eV-barns)
Kerma elastic
Kerma non-elastic (all but mt2)
Kerma inelastic (mt51-91)
Kerma capture (mt102)
Total photon (eV-barns)
Total kinematic kerma (high limit)
Dpa total (eV-barns)
Dpa elastic (mt2)
Dpa inelastic (mt51-91)
Dpa disappearance (mt102 -120)
Parameters
Incident Energy (MeV)
15
82-Pb-199

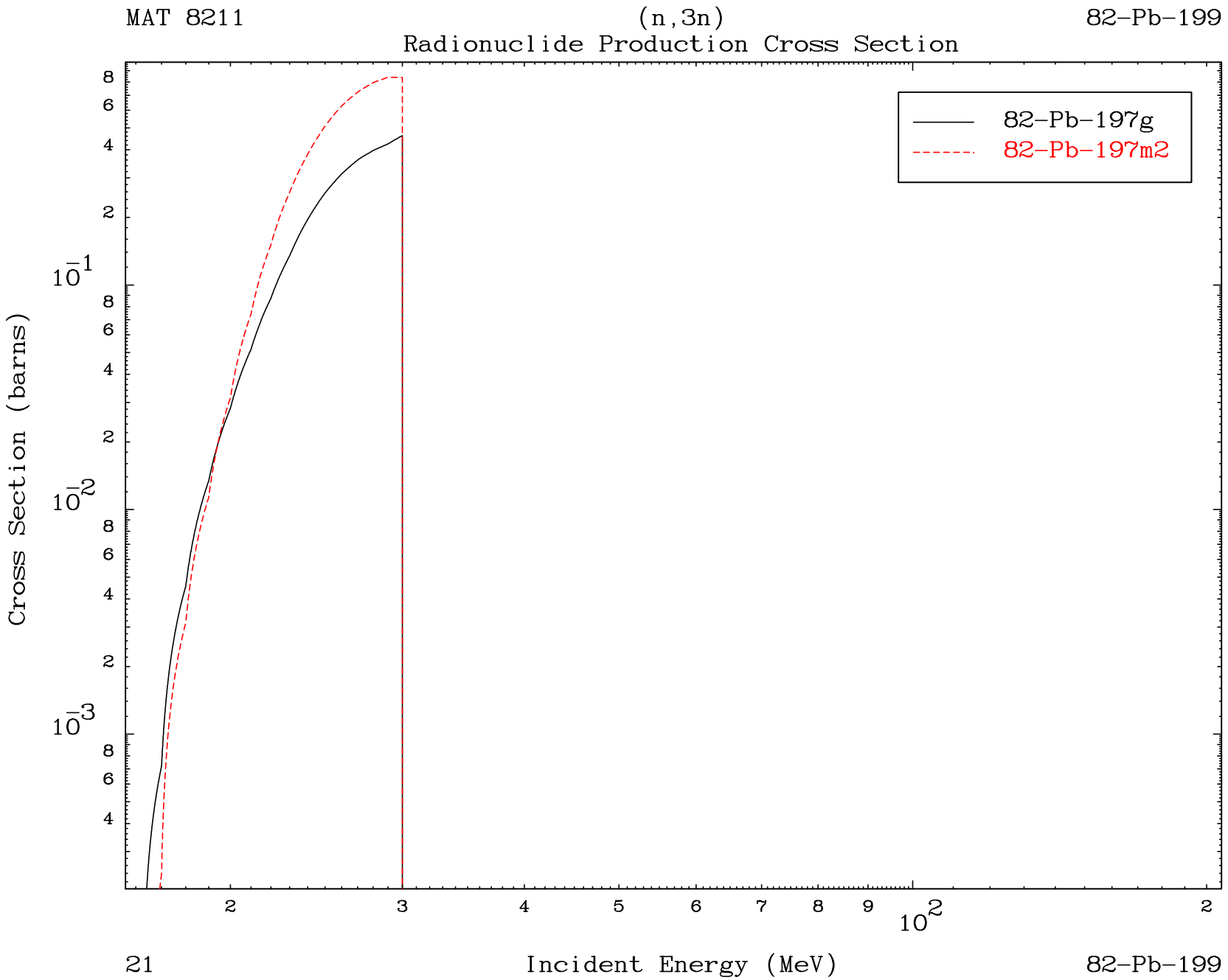

MAT 8211
Elastic
Legendre Coefficients
82-Pb-199
0.03
0.02
0.01
0.00
Legendre (CM)
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
0
10
20
30
16
Incident Energy (MeV)
82-Pb-199

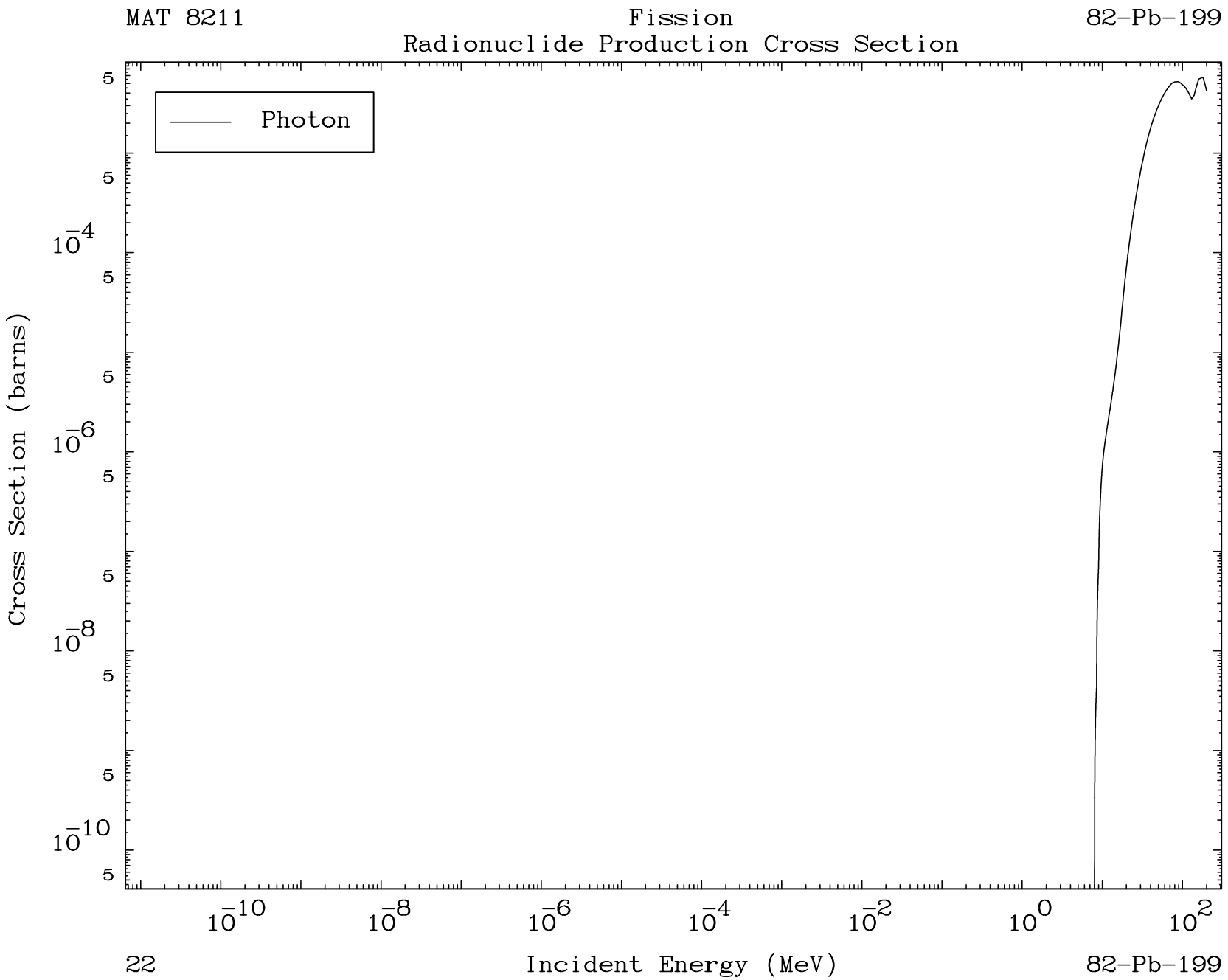

MAT 8211
Elastic
Legendre Coefficients
82-Pb-199
X10 -4
2.5
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P11
P12
P13
P14
P15
P16
P17
P18
P19
P20
5
10
15
20
25
30
17
Incident Energy (MeV)
82-Pb-199

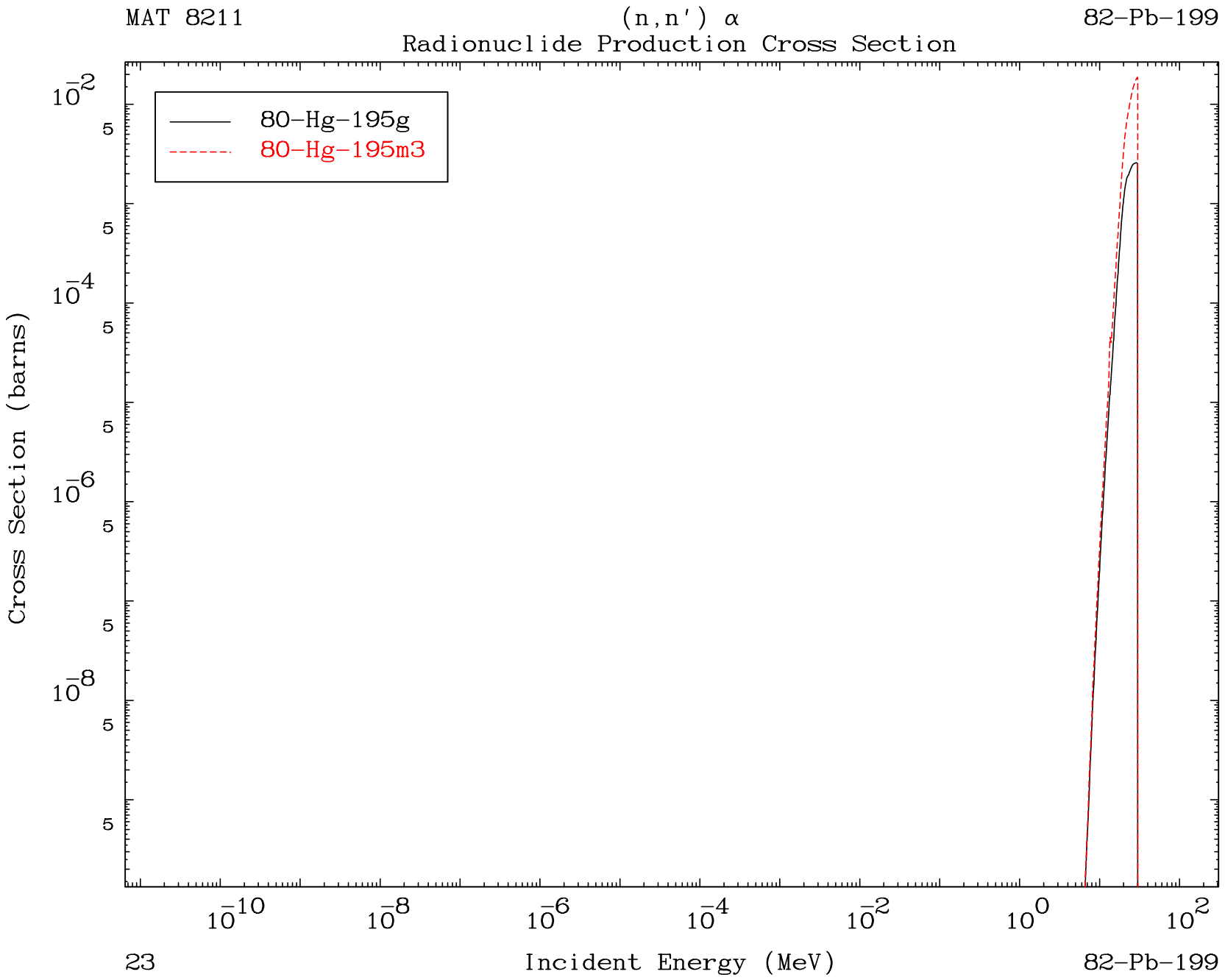

MAT 8211
Elastic
Legendre Coefficients
82-Pb-199
X10 -6
2.0
1.5
1.0
0.5
0.0
Legendre (CM)
P21
P22
P23
P24
P25
P26
P27
P28
15
20
25
30
18
Incident Energy (MeV)
82-Pb-199

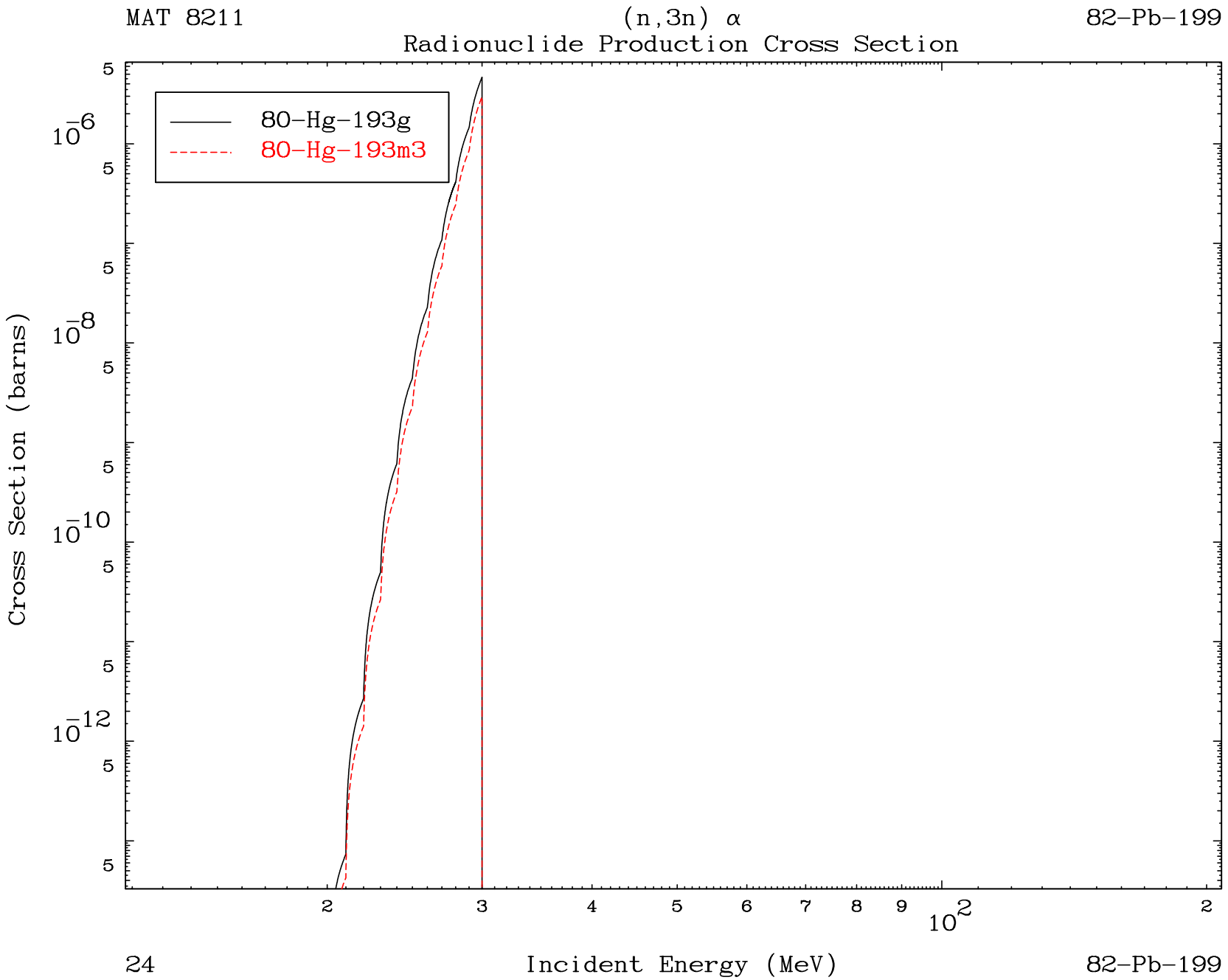

MAT 8211
Inelastic
82-Pb-199
Radionuclide Production Cross Section
82-Pb-199g
82-Pb-199m1
Cross Section (barns)
Incident Energy (MeV)
19
82-Pb-199

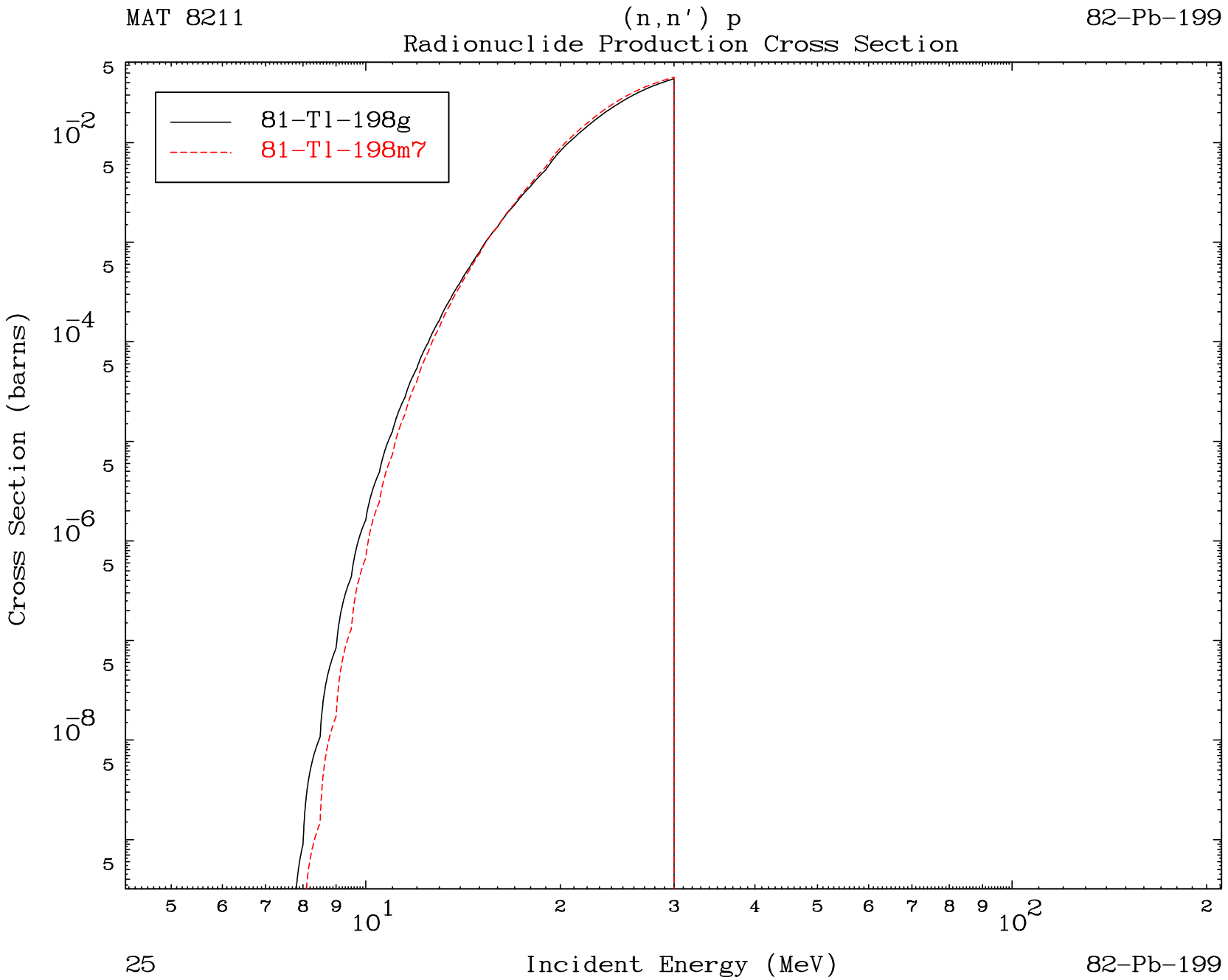

MAT 8211
(n,2n) d
82-Pb-199
Radionuclide Production Cross Section
81-Tl-196g
81-Tl-196m6
Cross Section (barns)
10-6
10-8
10-10
10-12
5
2
3
4
5
6
7
8
9
102
2
20
Incident Energy (MeV)
82-Pb-199

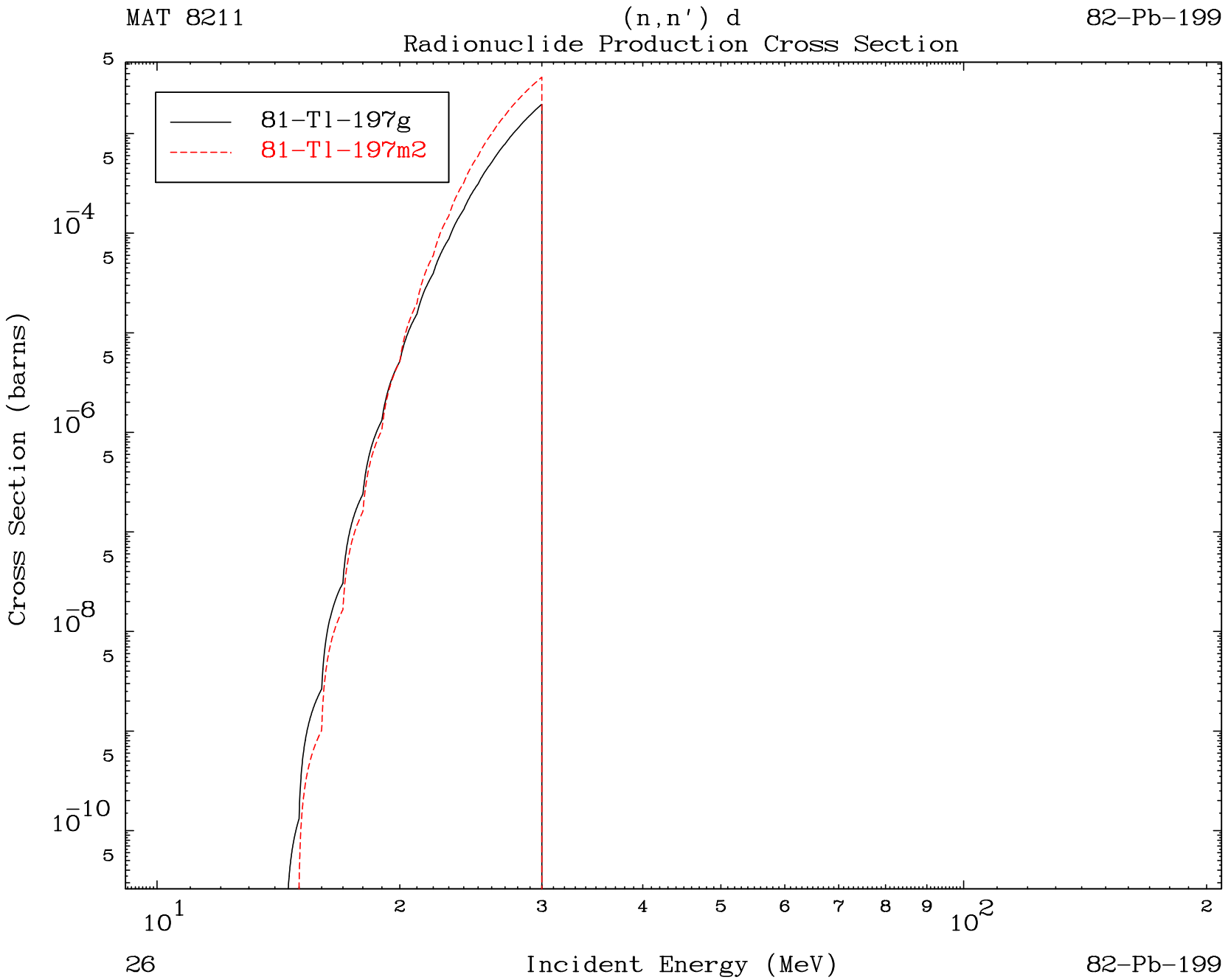

MAT 8211
(n,3n)
82-Pb-199
Radionuclide Production Cross Section
82-Pb-197g
82-Pb-197m2
Cross Section (barns)
Incident Energy (MeV)
21
82-Pb-199

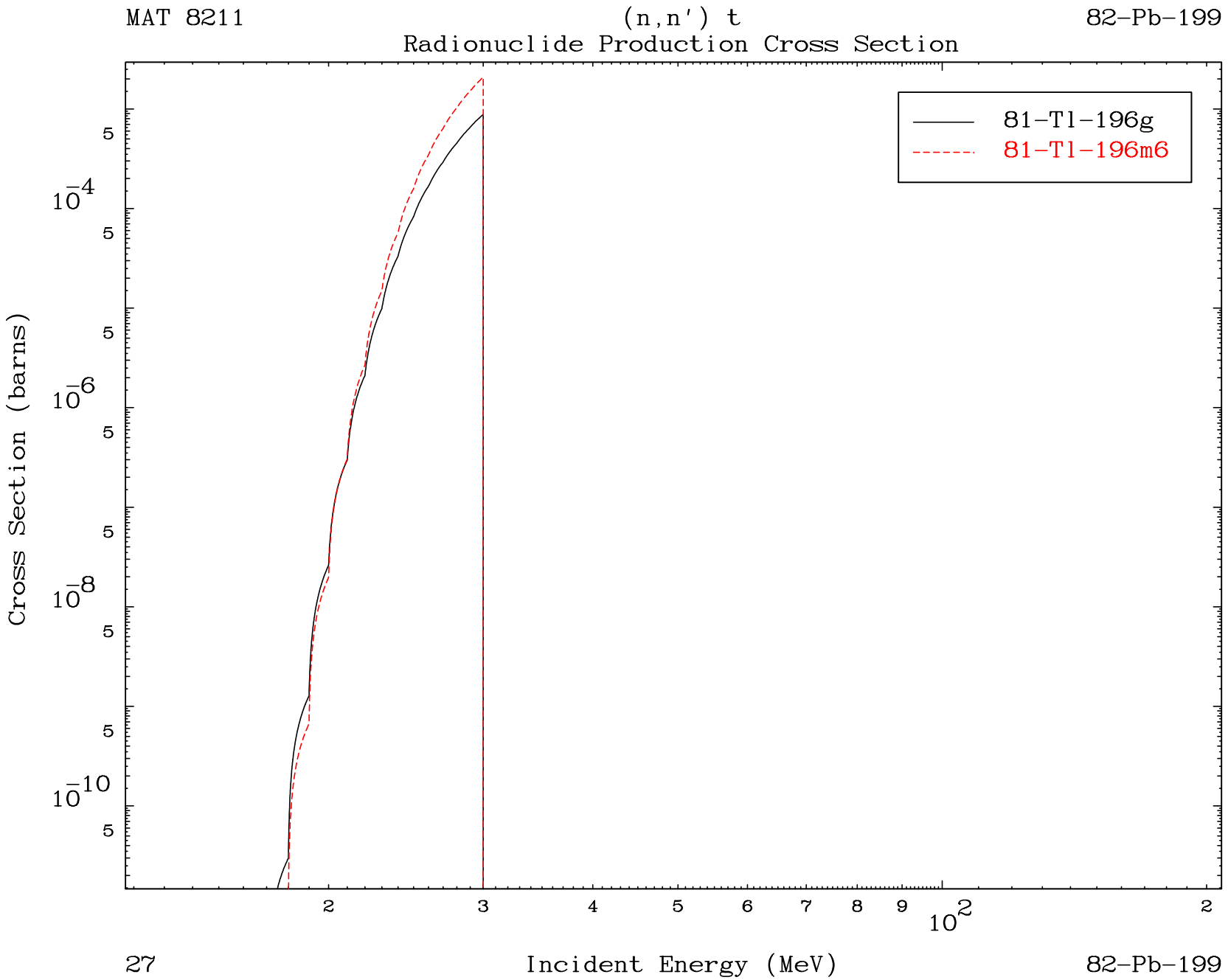

MAT 8211
Fission
82-Pb-199
Radionuclide Production Cross Section
Photon
Cross Section (barns)
Incident Energy (MeV)
22
82-Pb-199

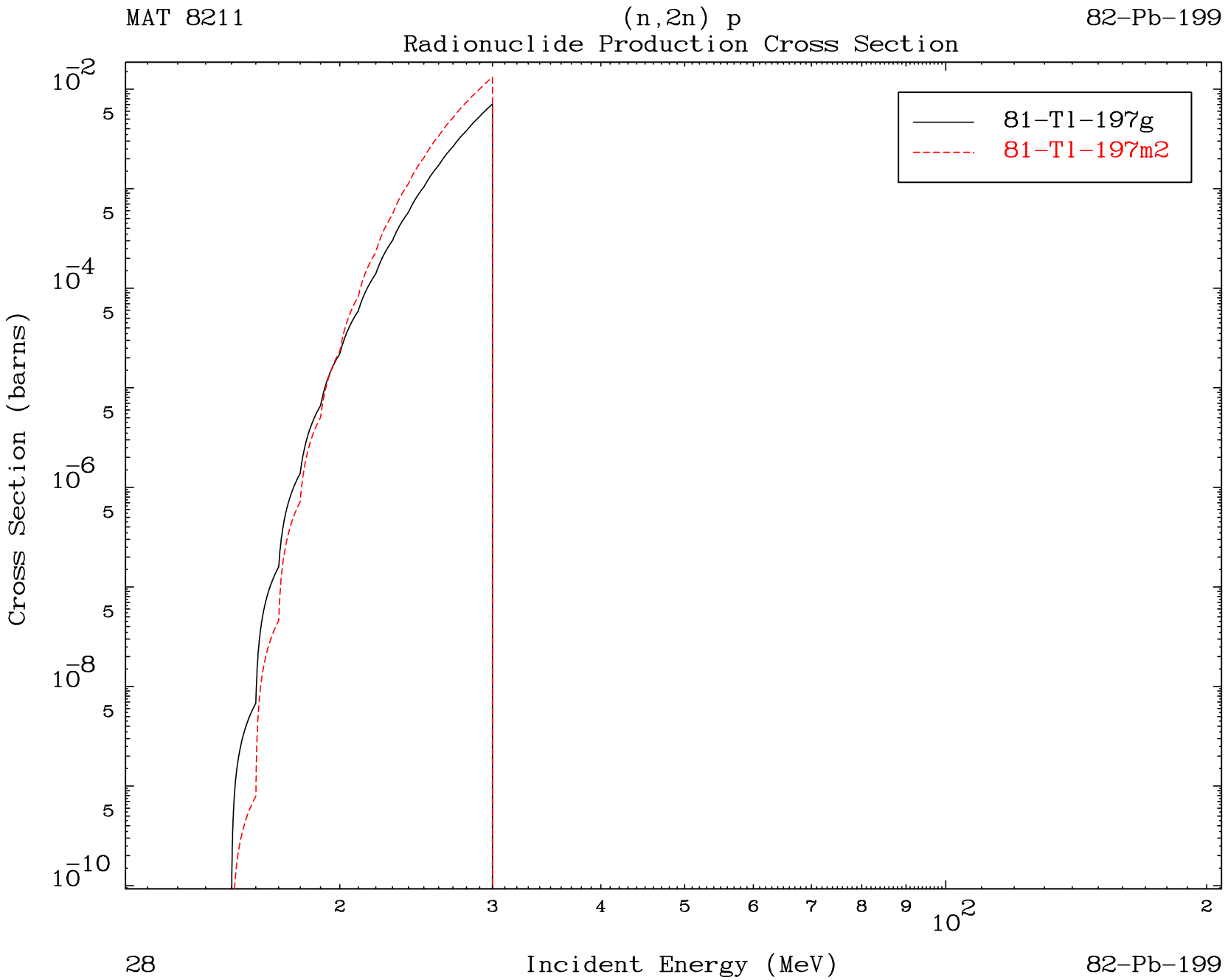

MAT 8211
(n,n') α
82-Pb-199
Radionuclide Production Cross Section
80-Hg-195g
80-Hg-195m3
Cross Section (barns)
10^-2
10^-4
10^-6
10^-8
10^-10
10^0
10^2
Incident Energy (MeV)
23
82-Pb-199

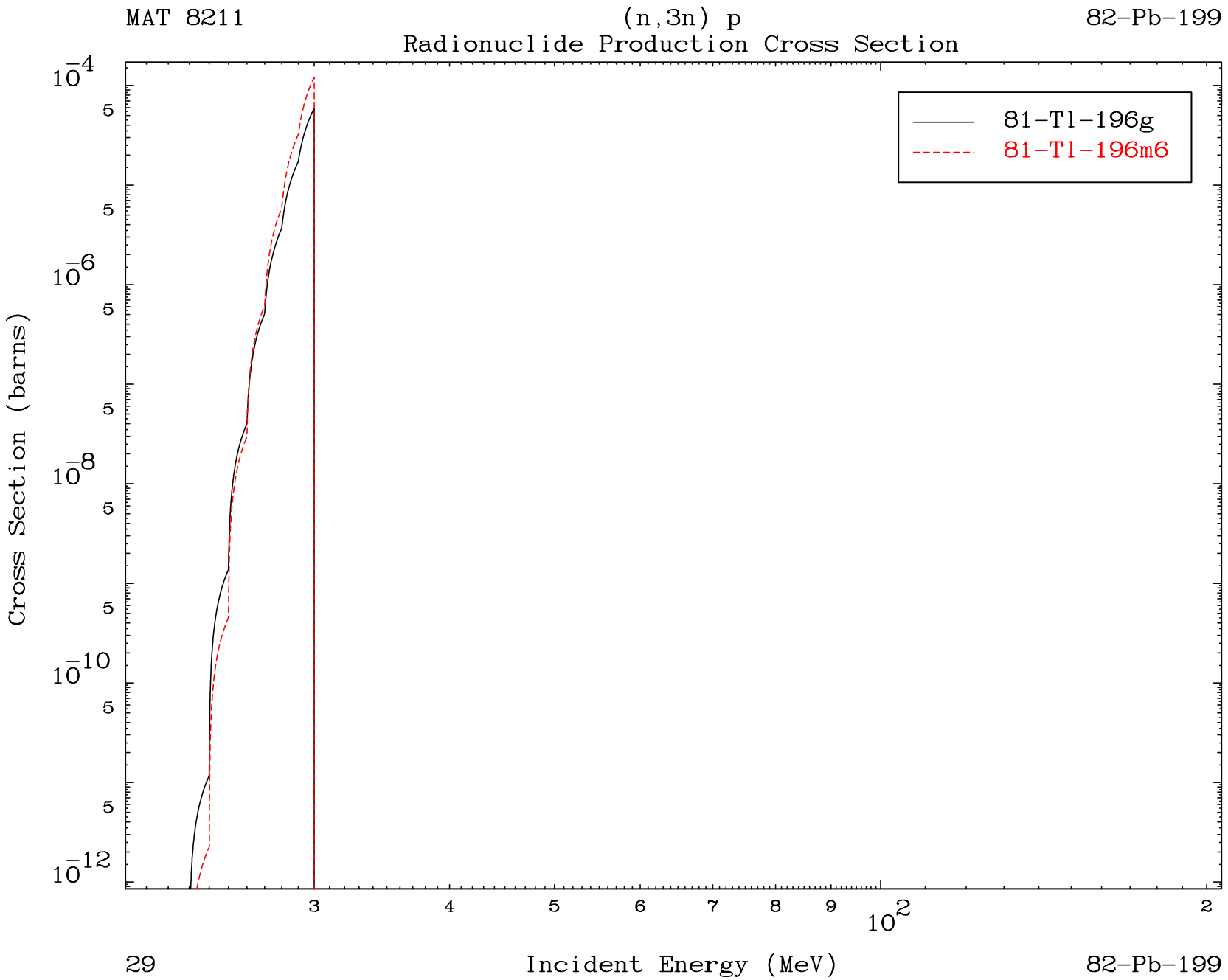

MAT 8211
(n,3n) α
82-Pb-199
Radionuclide Production Cross Section
80-Hg-193g
80-Hg-193m3
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
2
3
4
5
6
7
8
9
10^2
2
24
Incident Energy (MeV)
82-Pb-199

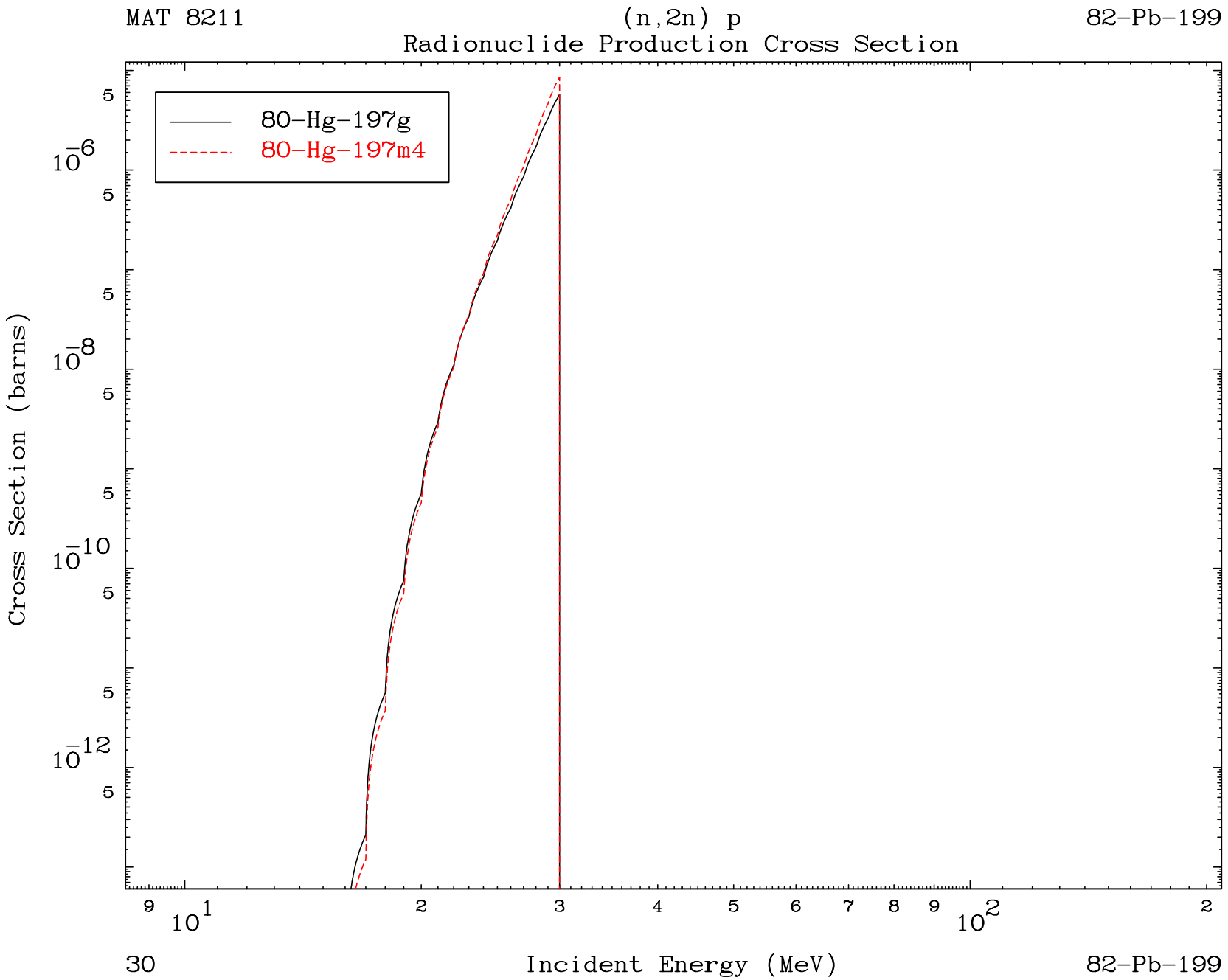

MAT 8211
(n,n') p
82-Pb-199
Radionuclide Production Cross Section
81-Tl-198g
81-Tl-198m7
Cross Section (barns)
Incident Energy (MeV)
25
82-Pb-199

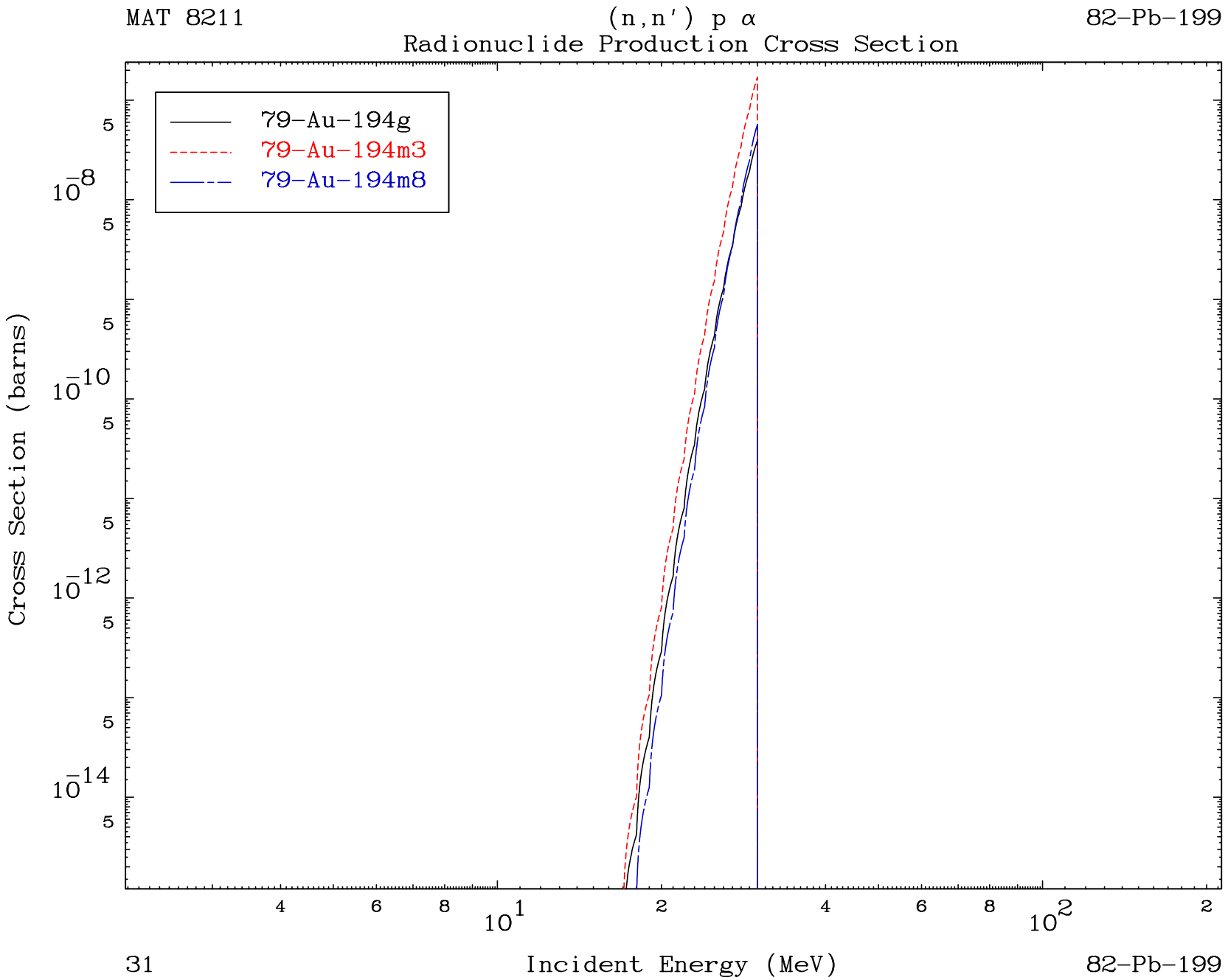

MAT 8211
(n,n') d
82-Pb-199
Radionuclide Production Cross Section
81-Tl-197g
81-Tl-197m2
Cross Section (barns)
Incident Energy (MeV)
26
82-Pb-199

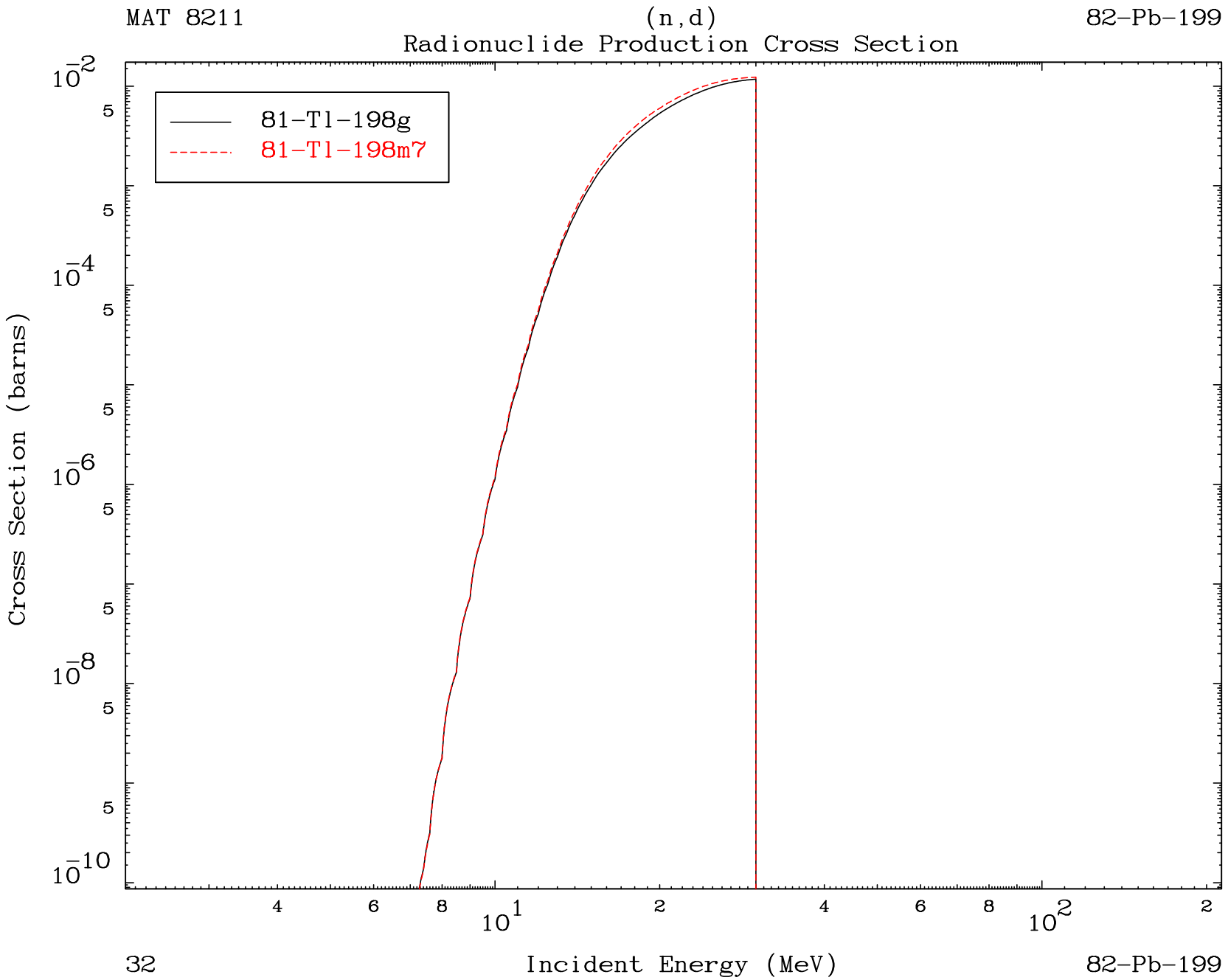

MAT 8211
(n,n') t
82-Pb-199
Radionuclide Production Cross Section
81-Tl-196g
81-Tl-196m6
Cross Section (barns)
10^-4
10^-6
10^-8
10^-10
2
3
4
5
6
7
8
9
10^2
2
27
Incident Energy (MeV)
82-Pb-199

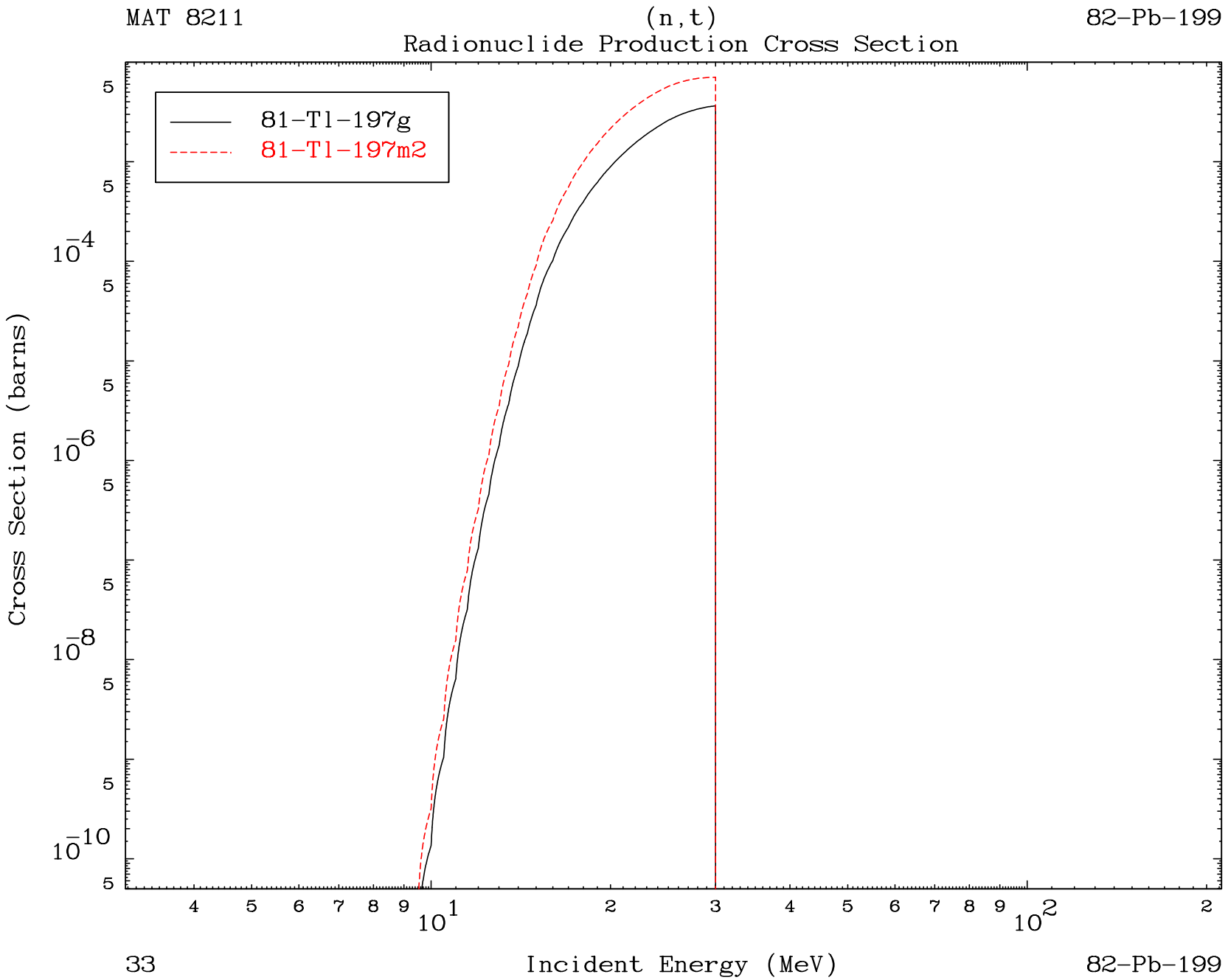

MAT 8211
(n,2n) p
82-Pb-199
Radionuclide Production Cross Section
81-Tl-197g
81-Tl-197m2
Cross Section (barns)
Incident Energy (MeV)
28
82-Pb-199

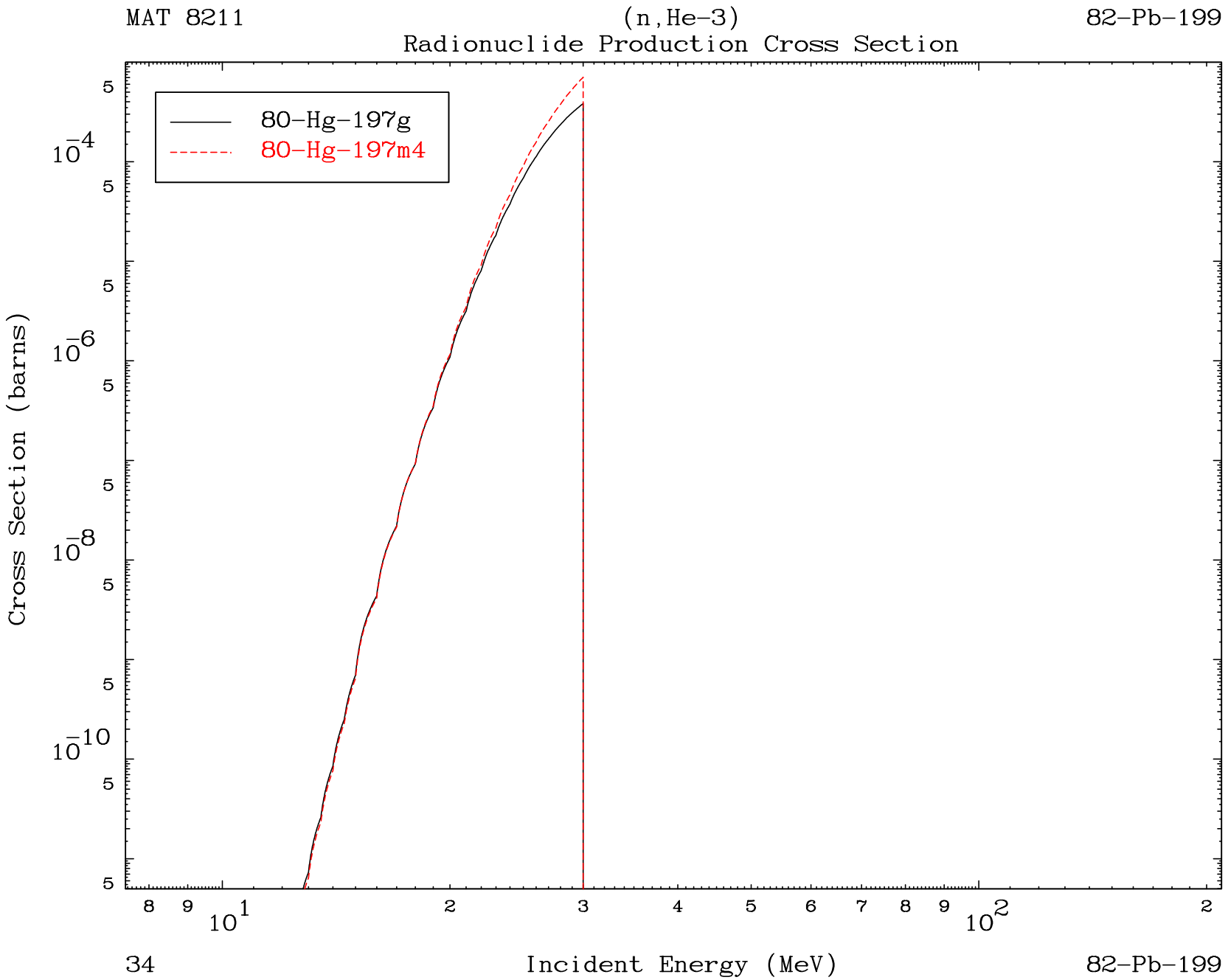

MAT 8211
(n,3n) p
82-Pb-199
Radionuclide Production Cross Section
81-Tl-196g
81-Tl-196m6
Cross Section (barns)
10-4
10-6
10-8
10-10
10-12
5
3
4
5
6
7
8
9
10 2
2
29
Incident Energy (MeV)
82-Pb-199

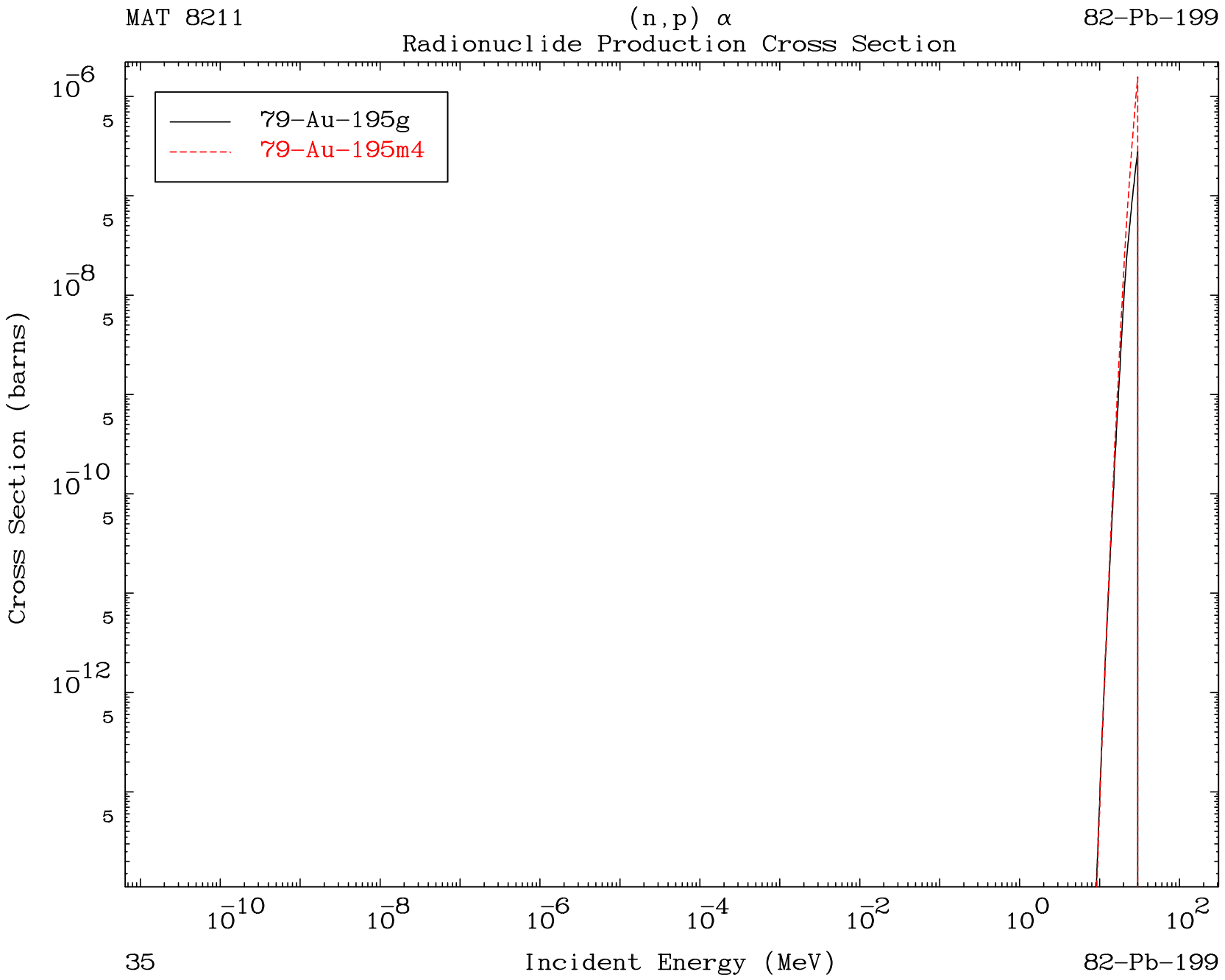

MAT 8211
(n,2n) p
82-Pb-199
Radionuclide Production Cross Section
80-Hg-197g
80-Hg-197m4
Cross Section (barns)
Incident Energy (MeV)
30
82-Pb-199

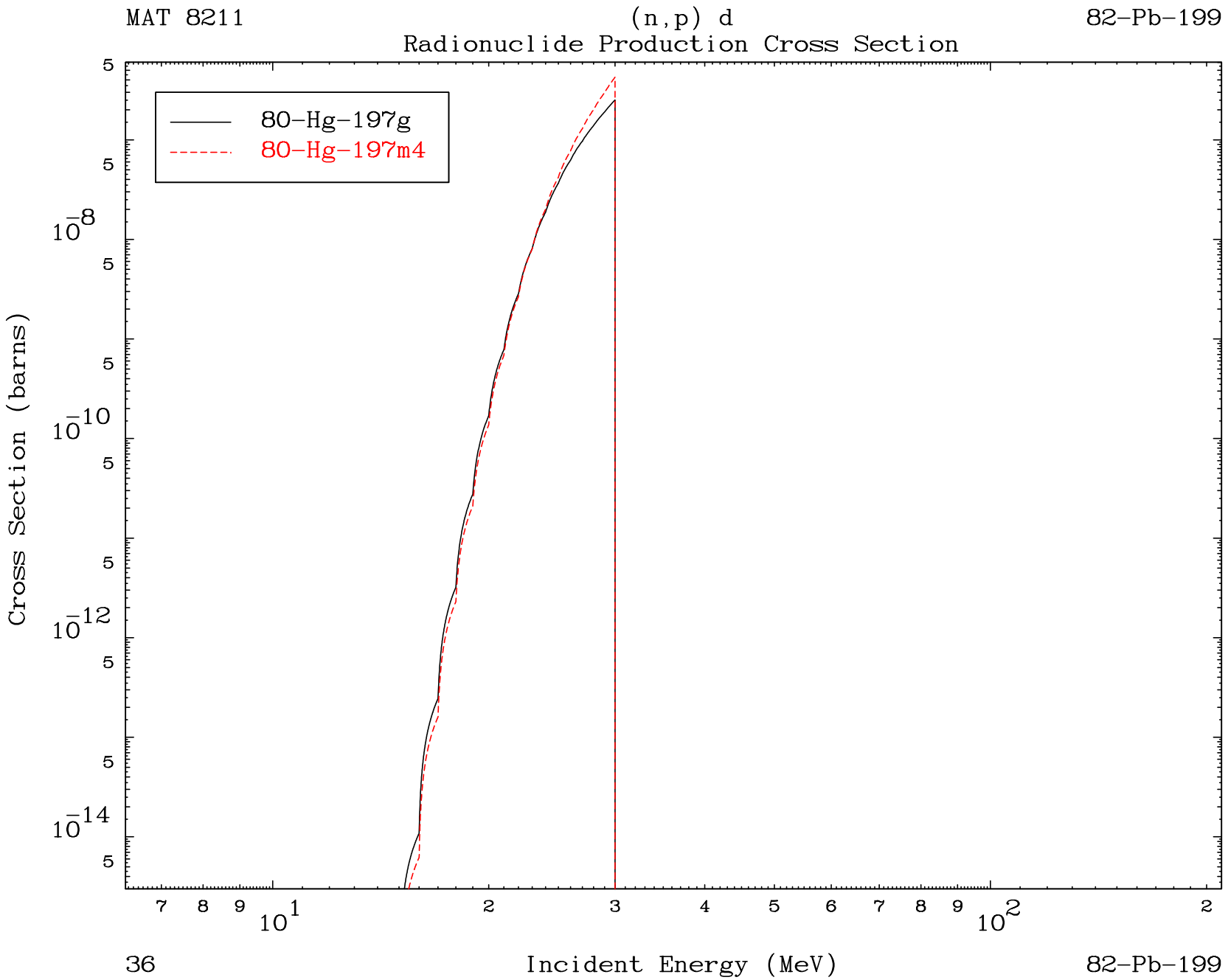

MAT 8211
(n,n') p α
82-Pb-199
Radionuclide Production Cross Section
79-Au-194g
79-Au-194m3
79-Au-194m8
Cross Section (barns)
10^-8
10^-10
10^-12
10^-14
5
4
6
8
10^1
2
10^2
31
Incident Energy (MeV)
82-Pb-199

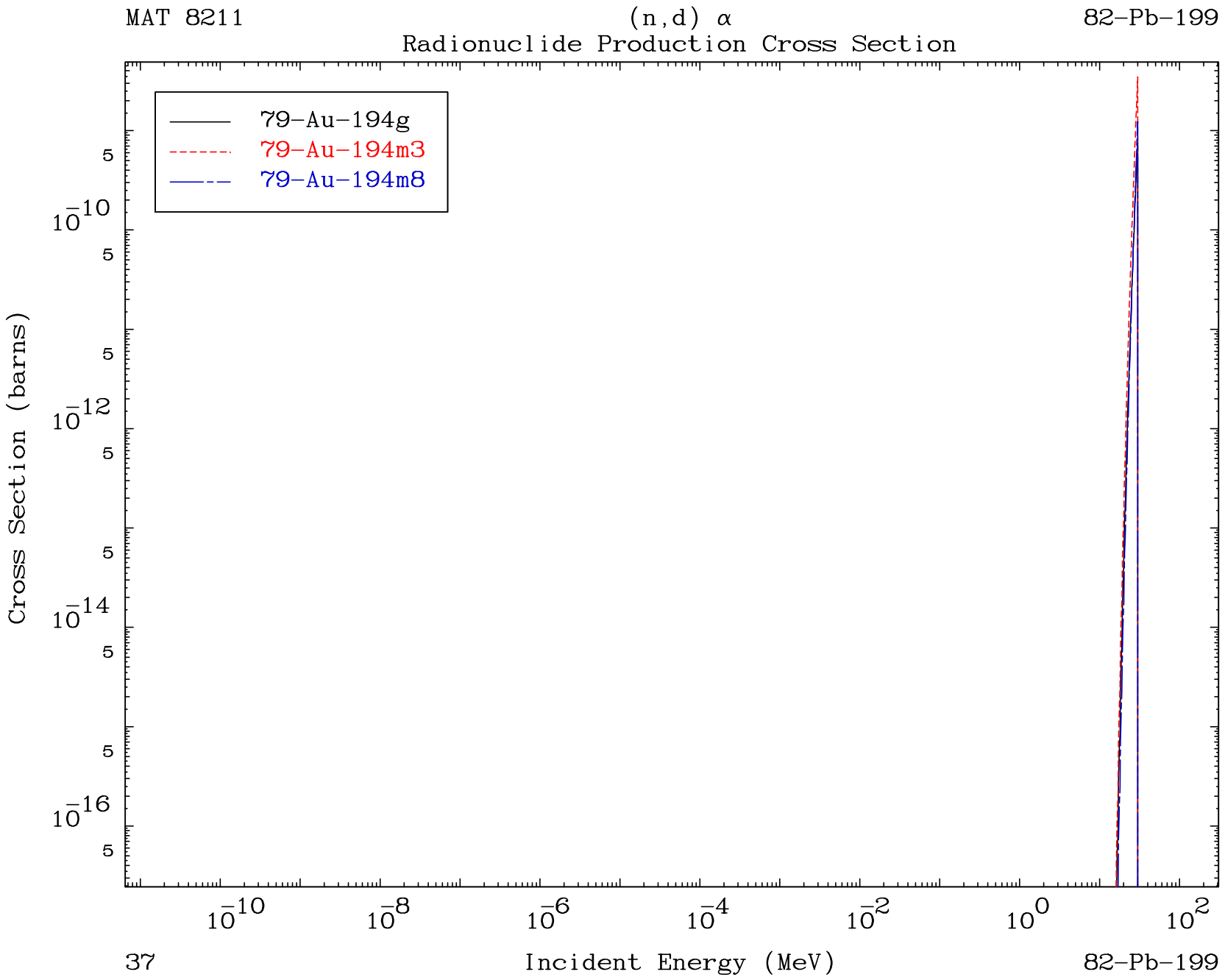

MAT 8211
(n,d)
82-Pb-199
Radionuclide Production Cross Section
81-Tl-198g
81-Tl-198m7
Cross Section (barns)
Incident Energy (MeV)
32
82-Pb-199


MAT 8211
(n,t)
82-Pb-199
Radionuclide Production Cross Section
81-Tl-197g
81-Tl-197m2
Cross Section (barns)
Incident Energy (MeV)
33
82-Pb-199


MAT 8211
(n,He-3)
82-Pb-199
Radionuclide Production Cross Section
80-Hg-197g
80-Hg-197m4
Cross Section (barns)
Incident Energy (MeV)
34
82-Pb-199


MAT 8211
(n,p) α
82-Pb-199
Radionuclide Production Cross Section
79-Au-195g
79-Au-195m4
Cross Section (barns)
10^-6
10^-8
10^-10
10^-12
5
10^-10
10^-8
10^-6
10^-4
10^-2
10^0
10^2
35
Incident Energy (MeV)
82-Pb-199


MAT 8211
(n,p) d
82-Pb-199
Radionuclide Production Cross Section
80-Hg-197g
80-Hg-197m4
Cross Section (barns)
Incident Energy (MeV)
36
82-Pb-199


MAT 8211
(n,d) α
82-Pb-199
Radionuclide Production Cross Section
79-Au-194g
79-Au-194m3
79-Au-194m8
Cross Section (barns)
10-10
10-12
10-14
10-16
5
10-10
10-8
10-6
10-4
10-2
100
102
37
Incident Energy (MeV)
82-Pb-199